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SEEK LEARN SERVE

The Editorial

WITH the dawn of the current academic year, the Madurai Medical College has entered the third year of its life and we have much pleasure in presenting the third volume of our College Magazine.

The academic year itself started with further progress for our infant institution in that the number of admissions to the college was raised to 70 from 65 last year. It is expected that courses for the training of some of the auxiliary personnel would be started in our College from the next academic year. With the progressive increase in the number of admissions and the varieties of courses, we expect our institution would be able to contribute in adequate measure for the various development plans for our country.

It is gratifying to note that the Government of India have proposed to open six more Medical Colleges at various centres in the country as part of the Second Five-Year Plan in addition to the 44 Colleges already existing. It is estimated that there are now about 70,000 fully qualified doctors in this country. This is expected to increase to 82,500 by the end of the Second Plan Period, but to approach anywhere near the facilities available in Western countries, we would require about 90,000 more doctors.

Shortages in personnel other than doctors are even more marked and are likely to persist even longer than in the case of the present shortages and there is need for more accelerated and sustained action, if even elementary services are to reach the masses of people in any adequate degree.

The discoveries of the healing sciences—preventive as well as curative, must be the inheritance of all. Diseases must be attacked whether it occurs in the poorest or richest man or woman, simply on the ground that it is the common enemy: and it must be attacked in the same way that the men of the fire brigade will give their full assistance to the humblest of cottages as readily as they would give to the most magnificent palace. Our aim should be to create a curative and preventive medical service in order to ensure that every one in our country irrespective of means, age, sex, or occupation, shall have equal opportunity to benefit from the best and most up to date medical service available.

In addition to the curative as well as preventive medical care, the question of rehabilitation of the handicapped also requires a great deal of attention. Our fatalistic philosophy, whereby we thank fate for saving the limb where the fingers were lost, and for saving the head where the limb was lost has, no doubt sustained many a handicapped to pass through what would otherwise have been a life of despondency with all its emotional problems. Though the proverbial "lame man of the toll-gate" is not unfamiliar to us, yet, in a country where there are more people than jobs, the demand for rehabilitation of the physically handicapped may not be so pressing as in countries with more jobs than people. Still, in the interest of these it should be our aim to salvage whatever capacities are still left over in these individuals to enable them to live a life of self reliance and self dependence and to raise their sense of self respect amongst their fellowmen so that they are neither a burden on their relatives nor on the State.

With progressive planning we can confidently hope that we would attain these objectives at the level of the common man within measurable time.

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— JAI HIND! —

We Welcome

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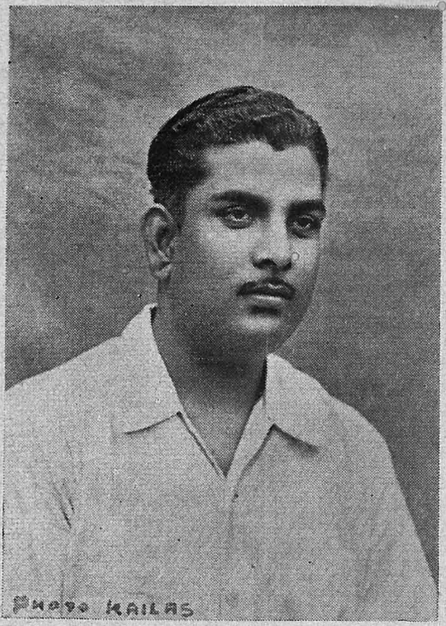

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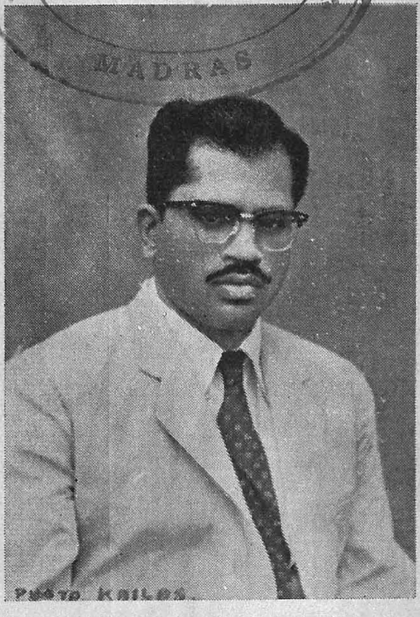

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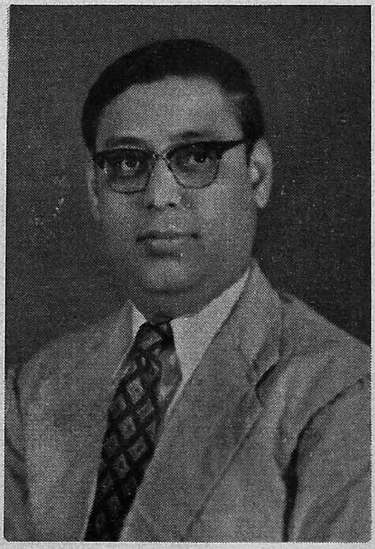

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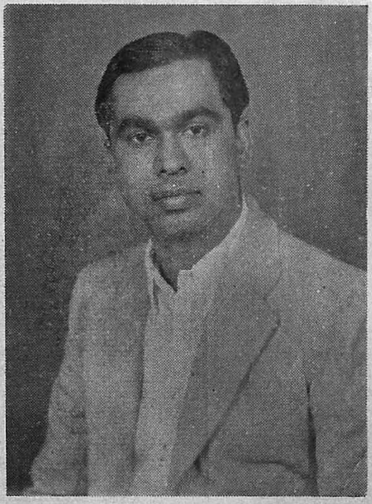

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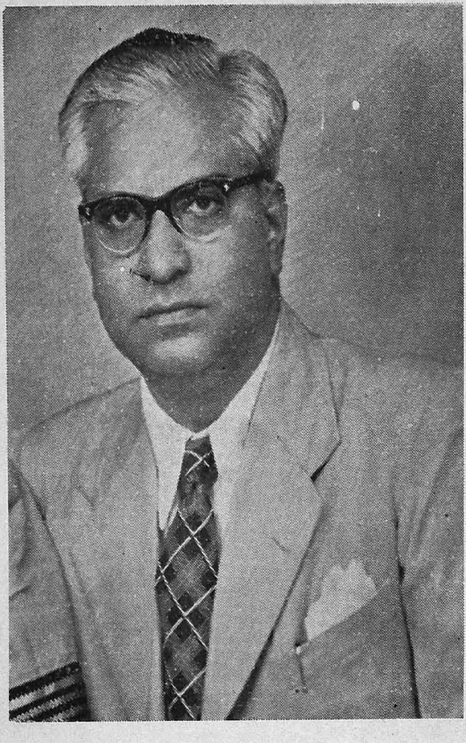

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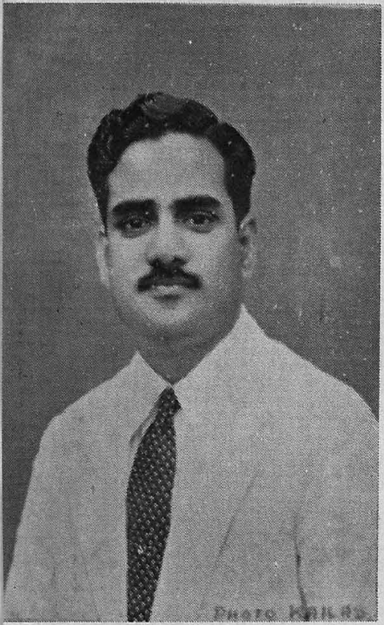

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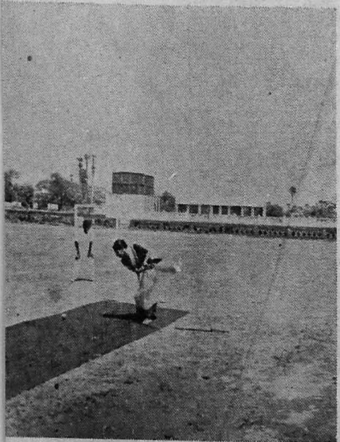

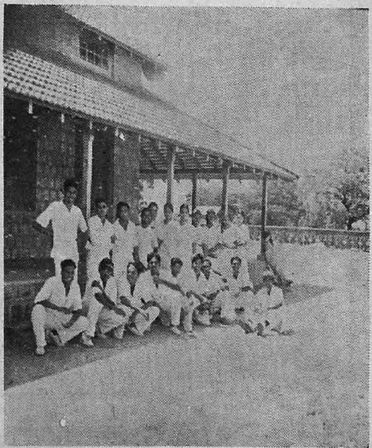

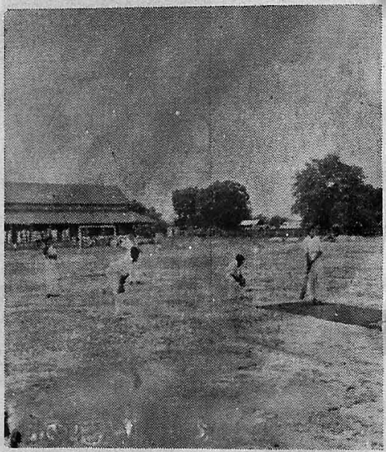

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Surgery and the Wars

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TWENTY CENTURIES ago, Homer said, "War is the surgeon's school and he who would practice surgery must go to war". Now, whether we like it or not, war comes to us. Along with wars, science advances. Surgery is no exception, being a science and an art. The last two World Wars have given great opportunity to surgery to advance and stand out as important milestones in surgical knowledge. Surgery has made tremendous strides of advancement in many of its branches.

Many discoveries were made and new methods of treatment were evolved. Surgical lesions which were given up as incurable in civil practice found hope of relief. Paraplegics, who were, till recently, virtually condemned cripples are now leading a happier life. It is now said that "you can break your neck and still enjoy it". While the soldiers fight the war, surgeons fight the disabilities sustained by the soldiers in the war. Today, there is no army without a medical corps. Wars have to be fought by soldiers and surgeons. There are now many eminent surgeons in the world who can record the ripe experience gained during the two wars of the present century.

It is interesting to go through, how surgery has been benefitted in various ways by the wars.

I. *Treatment of wounds and Maggot Therapy.*

Wars afforded opportunity to try various methods of treatment of wounds and come to conclusions. Methods like "Tobruk plaster" technique were evolved. The story of how the usefulness of maggot therapy was established is interesting.

(*a*) *Maggot Therapy*: Its evolution is connected with the I World War. From time to time many surgeons had observed that grossly infected wounds with much slough cleared up very soon when invaded by maggots. During the Napoleonic War, Baron Larrey drew attention to this so-called "healing power" of maggots. But, to W. S. Baer, an American surgeon goes the credit of establishing the value of maggot therapy in clearing up sloughing wounds. In 1917 (I World War), at a time, when the mortality of compound fractures of femur was about 75% Baer happened to see two soldiers with compound fractures of femur and large soft-tissue wounds (with thousands of maggots crawling about) after a week's exposure in "no-man's-land". He was impressed by the comparatively good conditions of the patients and the condition of the wounds which were filled up by healthy granulation tissue. This led to the evolution of maggot therapy. Maggots are now specially grown for the purpose of im-

planting them into the wounds to clear up slough.

(*b*) *Gas Gangrene*: It was known for a long time that gas gangrene following wounds of war was much more common in wet cold weather than in cold dry or warm weather. Thus both in 1914-18 and 1939-40, gas gangrene was rife in Flanders. It was thought that contamination of wounds with mud, especially highly manured soil, was *the* single factor that was responsible for this high incidence. From observations on the incidence of gas-gangrene following wounds inflicted in the soils of Yangtse Delta, upon which Shanghai stands, this theory received a shake-up. The soil of Yangtse Delta is the most heavily manured. Still, the incidence of gas-gangrene complicating wounds was much less, in this region. It was then shown that the nature of clothing worn by the soldier at the time of receiving wounds, rather than the nature of soil, made the difference. The high incidence of gas gangrene in wet cold weather was due to wearing wollen clothing contaminated with spores of gas-gangrene organisms : wool is derived from sheep which is the most important among domestic animals which harbour anaerobic organisms. When cotton clothings were worn by soldiers (as was the case in the Ethiopian and Spanish Wars) there were few cases of gas-gangrene.

II. *Abdominal surgery of war* :

At a time when laparotomy was in its earliest infancy, Marion Sims, in 1881, advocated and practised early laparotomy in gun-shot wounds of the abdomen, if there was evidence of visceral damage, with disappointing results. Yet he showed the possibilities of success in some of the otherwise hopeless cases. Between 1893 and 1899, Military surgeons were divided in their opinion as to the advisability or otherwise of surgical intervention for abdominal wounds — the Interventionists supported by American and German surgeons and Abstentionists strongly supported by the French surgeons. Reclús pointed out the "stopper" effect of pouting mucous membrane in case of intestinal perforation following injury, in support of non-intervention. Also in support of non-intervention were the reports that came in from three campaigns — the Sino-Japanese War, the Spanish-American War and the Tirah Expedition. In these wars, laparotomy for war-wounds had proved disastrous and the respective Army Medical Commandants had ordered discontinuance of surgical intervention. Just before the South-African War of 1899 — 1901, Colonel Stevenson, Professor of Military Surgery at Netley urged intervention in cases of abdominal wounds where injury to gut was suspected. He based his advocacy on the good results of operation for cases of perforated gastric and duodenal ulcers. But Sir William Mac Cormac, himself till then a protagonist of early surgical intervention and whose opinion carried much weight announced his results in these words: "In this (the South African) War, a man wounded in the abdomen dies if he is operated upon and remains alive if he is left in peace". This "Mac Carmac's Aphorism" influenced treatment during the remainder of the South African war, and this was the order of the day in the British Army till 1915. This was also the official view during the Russo-Japanese War of 1904-5. At this time Princess Gedroitz, a Russian aristocrat who had received surgical teaching and qualifications in Germany, organised and equipped a mobile operating unit in a railway carriage within such close proximity to the battle front, that it was possible to operate on cases of penetrating wounds of abdomen within 3-4 hours after the receipt

of injury. This was attended by very gratifying and dramatic results. She convincingly proved that in the case of penetrating abdominal wounds, success depended on *early* surgical intervention and not upon just intervention or abstention. In the early phase of I World War, Mac Cormac's aphorism prevailed with very poor results. In the later phases the value of early operation was realised and adopted. To-day, this is the rule and "it is really a question of excluding cases on which it is best not to operate". Following the principle of early surgical intervention, the recovery rate of abdominal wounds in II World War was between 70 - 80 %.

It is interesting to quote here the report of Sir Anthony Bowlby and Captain Bell on the injuries of a soldier. This particular soldier sustained abdominal wounds at the battle of Loos, but recovered without operation. This same soldier, again received a gun-shot wound of abdomen in the battle of Somme. This time laparotomy was performed, when several perforations were seen in loops of small intestine matted together, obviously the result of previous peritonitis. Resection of the perforated and adherent segments was performed; examination of the resected segment showed an entero-enterostomy between two coils of intestine and small herniated diverticulae of mucous membrane, indicating points of previous perforations. These were evidences of spontaneous recovery of previous perforations. "This case is remarkable clinical proof of the experimental work recorded by Reclús in 1899 and repeated by Hamilton Drummond in 1916"

III. *Thoracic Injuries* :

In his Lettsomian Lectures, the late Professor George E. Gask describes the war surgery of thorax from 1300 A. D. up to the end of the First Great War of 1914-18. In this account he points out that, even as early as Fourteenth Century and at the end of Napoleonic Wars, surgical treatment of a very high order has been given by surgeons to chest injuries. But further progress was made only in the 1914-18 war. By 1916, it was established that, to prevent infection and suppuration, the most disabling complication of chest injuries, thorough mechanical cleansing of the wound was essential to prevent entry of organisms into the pleural cavity. This object was attained by early and thorough excision of dead and damaged tissues in the wound and removal of foreign bodies followed by primary or early delayed suture. Towards the end of I World War, the value of dealing with open pnuemothorax by immediate temporary closure by suture and thus correcting the altered physiology was realised.

In the II World War, as a result of the experiences of treating enormous number of chest injuries backed by the experiences of the I World War, two important principles emanated, which could also be applied to thoracic injuries in civilian practice :-

(1) Immediate correction of altered physiology (closure of 'sucking' wounds) and early wound excision, so that subsequent infection was much less likely.

(2) In the treatment of infection and the prevention of mechanical disability, it was realised that rapid lung expansion was the greatest factor in preventing pleural sepsis. These experiences from war wounds have proved to be of immense value in treating civilian thoracic wounds and empyaema.

IV. *Head Injuries* :

The last two great wars afforded an extensive opportunity to surgeons to treat

thousands of cases of injuries of head. This the surgeons have done splendidly well and recorded their experiences. The experiences gained in this direction during the I World War left the surgeons better prepared to tackle head injury cases during the II World War on a more organised and daring scale.

For the first time, Britain had an effective organisation for segregation and treatment of head injury patients in the last War. During the years between the two wars, medicine, especially Neurosurgery had made great advances : all the new knowledge were applied to treatment of soldiers with injuries of head. Mobile Neurosurgical units were organised and almost every soldier wounded on the head, could be operated within 24 hours, with the assistance of air-lift service aiding transport from battle front to the base hospitals. As a result of the experience gained, it was realised that the main objective in the treatments of head injuries of war, as in the case of all wounds, is early and thorough mechanical cleansing followed by early closure. Penicillin and sulphonamides were powerful aids, but could not replace surgery. The gratifying results of this organised treatment of war injuries of head is a standing monument to the achievements, will, vigour and ingenuity of neurosurgeons of various countries of the world.

> "......" The times have been
> That, when the brains were out, the man would die
> And there an end ; but now they rise again,
> With twenty mortal murders on their crowns,
> And push us from our stools...."
>
> *Macbeth,* III, 4

V. *Peripheral Nerve Injuries* :

War left many soldiers crippled as a result of peripheral nerve injuries. The availability of a large number of cases of peripheral nerve injuries, afforded an excellent opportunity for collective study and research on nerve injuries. Many outstanding surgeons of repute (like Sir Robert Jones, Adrian, Greenfield, Head, Sargent, Riddock, Troffer and many others) were attracted to the problem and they applied themselves to it with great vigour, thought and interest. The result is that, today many soldiers who received peripheral nerve injuries are not cripples. Many serious injuries, even though could not be completely cured have been treated to the extent that the victims can earn for themselves and lead useful lives instead of being a burden on their relatives or on the State. Great advances have been made in nerve repair. The literature of today regarding treatment of peripheral nerve injuries is one of the benefits of war to surgery, and hence to mankind.

VI. *Rehabilitation* :

War brought in its wake the immense problem of rehabilitating the crippled. There were paraplegics (victims of spinal injury), victims of irrepairable peripheral nerve injuries and victims of head injuries who were permanently disabled. Here was necessity which is the mother of invention. Methods of rehabilitation were invented. Occupational Therapy became a valuable method of rehabilitation. Great Centres of Rehabilitation came into being where the physically disabled were psychologically and socially rehabilitated as a result of which they ceased to be social and economic burdens on others and became useful citizens. The Royal Air Force has an excellent rehabilitation centre in Surrey. In New Zealand, at

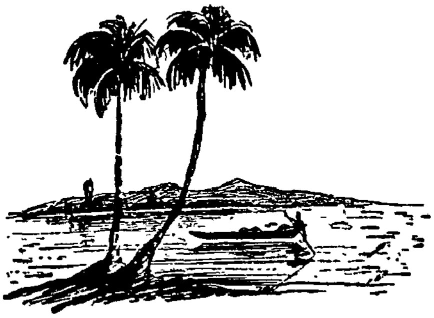
Dunedin, an excellent physio-therapy department exists for the disabled and for those who are recovering from spinal fractures and the like. The principles of rehabilitation evolved for war casualties can be and are being applied for disabilities in civilian practice. The Disabled Persons' Register in Britain has about one million people on its rolls and it is no small achievement to be able to say that the majority of them are able to work and earn.

From what has been said above, it is obvious how war has benefitted surgery. Surgery in wars is quite different from civilian surgery in many aspects. The wounds needing treatment are a class by themselves, the conditions and facilities under which treatment is carried out are different. Even the most experienced civilian surgeon will take some time to re-orientate himself to the conditions of war surgery. Yet the experiences gained by surgeons in war surgery could be applied in many ways to civilian surgery. In these days of high mechanisation, wounds comparable to war wounds are not uncommon in civil practice — especially in Automobile and Railway accidents, wounds sustained in factories, mines etc. "The ill-winds of war have a habit to blow good to surgeons, and through them, to surgery". (Ogilvie)

Medical service is one of the essential ancillaries which any Army Commander demands before he undertakes a major offensive. The Senior Medical Officer of the army is informed of the general scheme of war, before any offensive is undertaken so that he may be able to make the necessary arrangements regarding medical aid. Surgery and war have become inseparable.

References :-

1. H. Bailey (1942) *Surgery of Modern Warfare* II Edition Vol. I. (E & S Livingstone).
2. A. R. C. S. Vols. I, II and III.
3. B. J. S. *War Surgery Supplements* Nos. I, II and III.
4. Watson Jones R. (1952) *"Fractures and Joint Injuries"*. Fourth Edition Vols. I and II (E & S Livingstone).



Research and Medical Practice

N. G. PANDALAI, M.D., F.R.C.P.,
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AS AN introduction, I like to say that in my to-day's theme, you will find nothing new. I shall be only going over what many others in the past have said in better form. The subject is one of which I may be talking with special feeling, because that has been the subject of my thought for several years in the past, especially about India's part, rather no part, in clinical research and the building up of clinical medicine. You may then consider this talk merely as an exhortation, entitled to make, in virtue of age and some little experience. To most of you what I have to say may appear trite and common place or theoretical and ideal. Sometimes I may appear talking cheap or like a teacher. Having been one nearly all my official life, unwittingly though, I may lapse into the pedagogue Many of you, I trust, must have reached, or be nearing, my age of waning energy and zest for active study and contemplation. Also, few among you will need the leaven to raise you out of the common. Bear with me for all these shortcomings ; that is my earnest request to you all this evening.

When we think or talk of research, the first impression weighed up in our mind is that of lavishly equipped laboratories, microscopes, test-tubes, experimental animals and other costly appurtenances. That is but one type of research, call it academic research, if you like, and, no doubt, essential in all basic sciences and even in clinical medicine. Nor should we be lead away by the idea that it is superior to other forms of research. That is not so ; in the realm of medicine clinical research occupies by no means an insignificant place ; its cultivation is important, nay imperative, in order to enrich medical knowledge and make it serve the best interest of the suffering lot. If that were not so, luminaries of the medial firmament, like Cright, Laennec and Osler, will have to be assigned backplaces as mere followers of the healing art and no more. This was by no means the case, and the high level of excellence the clinical medicine of today has attained was due not a little to the selfless and sustained labours of eminent clinical teachers, inspired by a spirit of disinterested curiosity to learn the physical manifestations of disease in man, in all its fulness. Experimental medicine, whenever resorted to, was but a handmaid to clinical medicine. However, it will not be true to say that the pragmatic but selfless desire to alleviate or eradicate the suffering of their ailing fellow creatures, restoring health and happiness, was not likewise a predominant component of their motive force. Be that as it may, the above attitude towards clinical research has all but changed even in this country and change it should. In clinical medicine too we have not reached a finality of knowledge. Knowledge is expanding. Nature is immensely rich, but only silently

inviting. As though not to dispirit and thereby thwart the seeking man, She seems to be hiding Her treasures less and less, yielding more and more by degrees to his hard knocks at Her gate.

What can our practising colleagues do in this matter ? Quite a large bit indeed. It is not a mere can ; it is a must : it is a solemn responsibility, onerous indeed and may be profitless too in the material sense but extremely satisfying and joyous in the end. Adding to the sum total of knowledge, expanding its frontiers even by a tiny bit, is a noble aim, probably an ideal one. For does it not also often, indirectly though, help in promoting the happiness of man ? The imposing edifice of clinical medicine we have today was not built in a day ; it is the accumulated effect of the untiring and selfless labours of men and women through the ages. Glancing back, however, in this we in our country can boast of no part. We were not partners in the building up ; we only enjoy the fruits of their labours. We are living, parasitising so to say, upon the accumulated wealth of western thought and action. Even today we live upon imported knowledge, equipment and books. All thanks to the West. I do not mean to say that in the pursuit of knowledge any path we may have to travel is ignoble, but I mean it is infinitely more ennobling that we too make efforts to further add to that knowledge for humanity's sake. Therefore it is that in this no question is involved whether we can or cannot do research, but only an emphatic affirmative that we must do it. It is a serious duty of ours, not to be imposed from without, but spontaneously coming from within ; self-respect demands it. Let this then be the practising doctor's contribution to the country's efforts for harnessing the post-independence outburst of national energy. Let me not be understood as unmindful of the work currently being done.

I am well aware that research talent is not a quality native to all. With proper stimulus it can be awakened in those in whom it lies dormant. Some of us may also be thinking that we have not the research proclivity ; their mind is caged or hypnotised. But what is more to the point is that many of these potentially capable doctors may not be making any serious effort. My address today is mainly to them. We have been so long dependent that we are also prone to think that all original work can come only from abroad, from superior type of learned men. That is the thought of a pathological mind, the progeny of faulty training, entirely wrong and fundamentally to be changed.

The question arises whether the busy practitioner has the training or the facilities necessary for research or, what is infinitely more important, the necessary time for any original study and restful meditation. I am not one of those who think that only the highly qualified, academically trained doctor is good enough for or capable of exploring new grounds. The basic training we have had is sound enough and informing enough to build upon a research superstructure. Any practitioner who has a spark of adventure in him has the necessary research potential ; only he must awaken that spirit and guide it through proper channel. To follow the routine of practice is easy enough, but to take that routine along research lines needs besides curiosity a true and activated interest backed by conscious effort. He who has the firm will can certainly develop by steady practice the necessary skill ; with determined application the requisite training can be gained. With experience grows wisdom and he develops the quality

of critical evaluation. For research the practising doctor does not require elaborate laboratory or other equipment. And in this, unlike his academic colleagues, he is at a great advantage. He can combine his professional work with clinical research. Indeed, without the former the latter is obviously impossible. The man of clinical research is not hedged in by any barriers of experimental edifice ; no compulsive limitations of equipment may stand in his way. Per contra, he has the advantage that every sick man's house is his laboratory, every patient an experimental animal. Whether he can command any time is another question. If the irrespressible urge for research is there he will find the necessary time, will find ways of deviating some of it in the pursuit of study and research ; though no doubt, that will make some sizable encroachment on his bread earning activity. But that spontaneous self denial is the quality of an aspiring mind that will consider no sacrifice too great, no work too low or too hard to achieve great things.

I may be pardoned if in this context I make a passing allusion to the problem of the uneven distribution of doctors in this country of acute under-production and short supply. No doubt, this question is now engaging the serious thought of those who are concerned with the general and total improvement of our national health. Here I shall confine myself to where the problem impinges upon clinical research.

The rural and urban areas are still unexplored in respect of health and health conditions. They form a veritable mine for research of all sorts. Past sins have preserved that rich heritage almost unchanged for succeeding generations of doctors. Malnutrition, undernutrition and even starvation are the order there. Insanitation and all other circumstances making for easy contagion and infection are there too. The general and total health is poor. But yet the teeming masses still live on and go on with their "useful toil and homely joys," not only maintaining but also adding to the national wealth. We have learned that such adverse factors are highly prejudicial and injurious to well-being. Here then appears to be a mechanism of disease somewhat different. Again, there is there a diversity of diseases with their natural history evolving on that peculiar background, readily observable and lending for fruitful investigation but with patient perseverance. Here is also a fertile field for the unfolding of those factors of action and reaction with reference to man and his environment; what their genesis is and how a large mass of population adjusts itself against those natural factors, maintaining the balance in Nature, are all vital problems awaiting critical study and elucidation. In all these there is thus an untapped wealth of material silently inviting you to make use of, provided you have any spark of intellectual curiosity. But unfortunately most of our doctors turn a blind eye. They choose to work in cities and large towns, and this tendency would seem to continue for a long time more, probably until the conditions of living in the backward area have become lots more attractive and remunerative. And until great attention to the general health is bestowed and vast improvements effected in the general well being of the population there, with resulting reasonable increase of amenities, the above mentioned condition is difficult to encompass. Thus, it is a vicious circle which must be broken at any cost, if we are seriously bent on improving their lot and therewith the national health and prosperity.

I do not propose in this context to analyse further the reasons responsible for this disparity of distribution in the dif-

ferent parts of the country ; suffice it to point out that it is there and it has to be urgently levelled over. To my mind there appears to be only way of solving this inequality with any prospect of immediate effect. And there is no time to be lost ; we are already late. It was my privilege in my official capacity several years ago to submit suggestions regarding certain problems of medical education. From that I may quote a relevant passage. Discussing about compulsory internment I said : "that, as in Russia all medical graduates passing out of a college should be required to serve in the rural districts for a period of three years. They join rural medical stations where they work as assistants to experienced doctors, where available. Only in this way we can solve the problem of the over-crowding of doctors in cities and towns at the expense of the rural areas and at the same time give the young graduate a chance to acquire practical experience and bring him in touch with the rural population whose problems he comes to know. They should be paid well. In fact, in Russia doctors in the rural areas receive salaries higher than those of city doctors in corresponding positions. The more arduous the nature of the work or the more distant or unattractive the place the higher the salary. It is only after the completion of this very useful apprenticeship that the young doctors would be permitted to choose their career or proceed for higher studies and specialisation." Larger production of doctors, sufficient to meet all the national demands is necessarily a slow process. Also, our country is poor and the medical course very costly. That too is a serious problem. The poor but deserving entrants should be given free tuition, and free books and equipment and free boarding, no matter the number ; only quality should count for this award. Although several years have elapsed since making the above suggestion, I have not been able to think out any sounder alternative.

A change of outlook in the practising doctor is what is needed. True, the doctor's chief function is the care of the sick, that work is truly exhausting, saddled with responsibilities and acutely conditioned by competition and financial uncertainties. Parenthetically, I may add that the desire to live well and with reasonable comforts in instinctive in man ; only, money making as such is not an ennobling profession. To underestimate the situation will not solve anything. The doctor is also a member of the society and he has all the obligations and responsibilities as a citizen. He must also find time to read and refresh, lest he should stagnate and deteriorate professionally, his use to the community thereby going down. If he does all these, he would have done a good job. But there can be something more, something higher for the aspiring mind. Is it not nobler to aim at such loftier ends ? That undoubtedly involves hard work and denial of other good things in life. Work is the open seasame, the "Master-word", as Osler puts it, for all success. That is the touchstone of all conquests. The pursuit of research is a superior type of intellectual work and it demands single pointed attention. To know more, again, is a craving of the cultural mind. To seek limelight by easy means is incompatible with true creative search. It is indeed, a hard path but, what abiding thing has been achieved by easy life ? "But they, while their companions slept, were toiling upward in the night." Mention has been made that the practising doctor can combine clinical research with his routine practice. Right from the beginning he must train himself to approach, his work with a spirit of objectivism and a sense of scientific detachment.

Assiduously he should cultivate the habit of order and system. That is an essential pre-requisite for all work, particularly scientific work. Our understanding of the phenomena of health and disease is still in many respects far from compete. True, we have a wealth of knowledge patiently acquired through centuries of observation and study. But what we know is only a fraction of what yet remains to be known ; knowledge is limitless but fugitive, only with laborious and persistent will can we get a glimpse into its " ample page, rich with the spoils of time." The seeker after truth needs infinite patience. New things will not come his way every day ; he has to watch for them with patience and earnestness. Even in the humdrum of everyday practice opportunities will present themselves to him. He must seize them and make the best use of them. He must make careful observation, collect his facts, classify and correlate them, and all these with an objective detachment, never trying to fit your observation with your expectation. A thorough study of every case and from all aspects is very essential. The habit of keeping full case reports of all patients, so that you may delve into them periodically for comparison is a *sine qua non* of all systematised work. With every success our interest waxes, but no reverse should be allowed to damp the enthusiasm. Indeed, the doctor with an abiding passion for creative work by nature maintains an unflagging enthusiasm. Unusual or unexpectd observations however trivial they may seem at the moment, should not be discarded as insignificant or valueless, but recorded and preserved for the future. It may not be practical or often necessary thus to study every case. Therefore, you may take one or two groups, *e.g.*, pnuemonia or enteric fever, and focus on that your special attention. Do not depend on memory, but from the beginning practice the art of keeping careful records of all cases of special study and critical clinical examination, in a systematic way. Where possible try to do or get done all tests necessary for a correct diagnosis.

It is worth bearing in mind that practically all textbooks you have studied were written by foreign authors, with scarcely any knowledge of the peculiar conditions obtained in other countries but largely on the basis of their own observation and study of patients living in their own conditions and environments. A typhoid case occuring in an English town, for example, does so on a background of poor or negative specific resistance of the general population and in spite of highly developed sanitary and other protective measures of general nature, whereas in this country, and especially in the rural and urban areas, people can reasonably be expected to have developed some level of immunity against that disease for the very reason of the absence of such safeguarding and protective measures. Also, our people are relatively ignorant and very poor. This background for disease evolution is altogether different from the other. For these reasons too, if your clinical observations do not agree with your textbook lore or the teaching of your own teachers, do not turn them down as due to wrong observation. But make repeated observations, and strengthened by such further confirmation do not be afraid of presenting your results to others, not for lime-light but for corroboration or correction. Diffidence is not a virtue, although a strict judgement of yourself is very essential. When once you are convinced, be loyal to your own observations and be humbly bold to submit your facts for dispassionate scrutiny. One word of warning ; sometimes tinsel may appear as glittering gold and you may be tempted into rushing with it to the print. But forbear,

and not until it is tested in the furnace of repeated study should you consider it as true gold and present it as such. For the majority of practising doctors, the experimental method and verification is out of the picture. But experimental method is often for confirmation of bed-side studies and observations.

The practising doctor's field in our country is becoming wide. In the new set up he will also be called upon to perform other duties. It will be incumbent upon him not merely to attend to the sick but also to educate the individual in the ways of healthy living — that with the facilities at his disposal, severely limited as they are, it is yet possible by an intelligent utilization of them to provide himself with better sanitary and food conditions indispensible for building up better health and live a more comfortable existence and that it should be a major interest in life not allowing it to drift along passive lines with fatalistic faith or indifference. The doctor may likewise be called upon to bestow more attention to the community than to the individual. Service to the group is rightly being given more prominence than service to its component part. In fact, the plan is to orientalise the future medical structure definitely in this direction. Thus, in the changed setting too the inquiring doctor will have ample scope for research ; his opportunities for exploring new fields will be actually widening ; dearth of material will not be a limiting obstacle.

The patient painstaking seeker, who carries a scientific and inquiring bias into his work, will thus find plenty of opportunities during his everybody contact with his patients to gather in course of time a good harvest of new facts and figures. Periodically, he may check his material, classify them, assess their values, arrive at his own conclusions and submit them for other's judgement. Calm and dispassionate reflection over his collected data leavens his thought and in this process vistas of newer problems will surge up in his mind, crystallising into conceptions very necessary for advancing his work. This reflective thought sharpens his powers and deepens his thirst, spurring him on to greater and greater efforts.

The glow of success is the surest incentive on the path of adventure. He should not falter or shrink at difficulties or disappointments ; the path may be strewn full with them. Always his gaze should be forwarded. If he has the will the way is there "to strive, to seek, to find, and not to yield."

For all these what is the inquiring doctors' ultimate reward ? In terms of material prosperity there may not be much ; in terms of a name, in being able to leave some foot-prints on the sands of time, there may be something. Finally there is the undeprivable joy, the supreme satisfaction of having lived a dedicated life of service to the suffering mankind. What else can be nobler, more satisfying and joyous ?

(*Reproduced*)

A Case of Surgical Emphysema of the Orbit

By

DR. G. VENKATASWAMY, B.A., M.B., M.S., D.O.,

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Case Report :

Perumal — age 35 years, male — an agriculturist was admitted in the ophthalmic ward, Erskine Hospital, Madurai on 18th August 1956 with proptosis of left eye. On 17-8-56 at 4-30 P.M. he received a hit accidentally with the handle of a motor pump on the left side of his face, and immediately he had bleeding from the left nostril and mouth. Within an hour he noticed swelling of the tissues around the left eye.

Past History : NIL particular.

Condition on Examination :

Well built youngman, with considerable swelling of both lids of the left eye. There was a lacerated wound about 1/2" in length over the left eye brow. Left eye ball was proptosed about 5 mm. Crepitus could be felt over the left upper lid. In the lower margin of the orbit, a small gap could be felt 3/4" lateral to the medial end, suggesting a fracture of maxilla.

Left Eye :

Conjunctiva and cornea — Normal. *Pupil* slightly dilated, irregular, not reacting to light. Blood over the anterior surface of the iris. Fresh blood in vitreous.

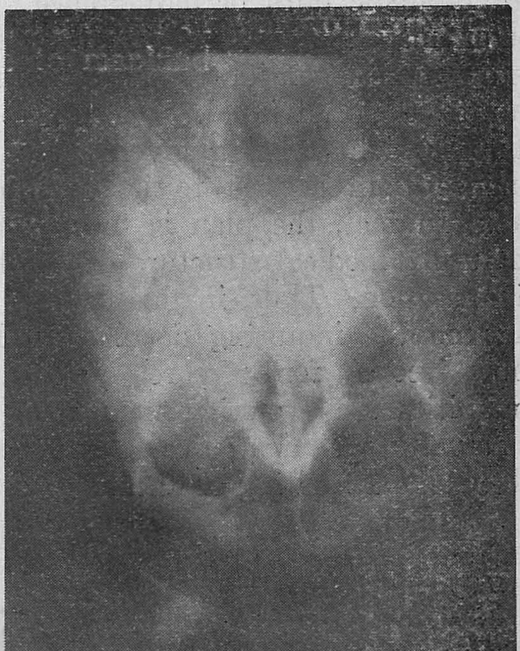
Vision : 1/600.

Fundus :

Hazy view. No details made out.

X-ray Left Orbit shows :

(1) Air in the orbital cavity showing the outline of left eye ball.



(2) Fracture of lower margin of left orbit with opacity of left antrum.

Diagnosis :

Diagnosis of surgical emphysema of orbit was made on the typical history and X-ray findings.

Treatment :

A pressure bandage was applied and the patient was advised not to blow his nose or sneeze. The proptosis got reduced in 4 days and the vision in left eye improved to 6/9 after 2 weeks.

Discussion :

Accumulation of air in the tissues of the orbit is usually due to a communication of the orbital space with any of the air sinuses surrounding it. Usually it is due to an impact of the eye ball on the thin ethmoidal sinuses by a blunt injury on the outer aspect of the orbit. Sneezing or blowing of the nose drives the air through the fracture site and the eye ball is pushed forwards. If the orbital septum is intact the air is confined to the orbital cavity but if the septum is injured, the air gets under the skin of the lids, causing in addition, 'Palpebral emphysema'. Cases have been recorded when violent sneezing unassociated with any injury produced orbital emphysema due to fracture of the thin walls of ethmoidal sinuses.

Diagnosis of orbital emphysema is easily made with —

(1) The history of sudden proptosis of the eye following an injury.

(2) Proptosis could be reduced by firm pressure.

(3) Feeling of crepitus over the lids.

(4) X-ray of orbit showing free air in the orbital cavity with the outline of eye ball being visualised.

Treatment :

Precaution is — NOT to blow the nose or sneeze. Usually a pressure bandage is enough in most of the cases. Rarely, when the tension in the orbit is very high, it can cause sufficient pressure over the retinal vessels entering the optic nerve and impede the blood flow. In these cases simple orbitotomy will cause escape of the air.

SUMMARY.

A case of orbital emphysema due to direct injury to Maxillary sinus is reported.

Acknowledgment :

My thanks are due to Dr. C. K. Padmanabha Menon, M.S., F.R.C.S., (ENG.) Superintendant of the Erskine Hospital, Madurai, for kind permission to publish the case report.

If we know ourselves better, we would be more forgiving of others. The harder we are on ourselves, the easier we will be on others. The one who has never learned to obey knows not how to command. The one who has never disciplined himself knows not how to be merciful.

Sternutament

DR. M. N. GURUSWAMI, B.A., M.B.B.S., M.S., (MICH.),
Professor of Pharmacology, Madurai Medical College, Madurai.

THE OTHER day somebody entered my room, saying, "I say, so-so, would you mind.... er .... CHURRRRR.... ACHOO..... ACHOOO.....". I looked up and found my very good friend, V, snapping his fingers and swabbing his rubicant nose delicately with a coloured Madras handkerchief. With a flourish, he put back an oval, ornate, silver snuff box into his vest pocket. Looking at his snuff box, my mind started wandering, while I listened to his conversation in a hazy, half conscious state.

SNUFF BOX ....SNUFF...... STERNUTAMENTUM .... INSUFFLATION ....Ah......

Sternutament (L. Sternutamentum) is defined as an agent causing sneezing and Sternutation as the act of sneezing.

Snuff may be defined as any medicinal or errhine powder to be inhaled into the nose.

Insufflations are fine powders intended to be blown or injected into the cavities of the body. They are used mainly for the ear (aural insufflation), nose (nasal insufflation or snuff) or throat (laryngeal insufflation). Originally a development of simple snuff or sneezing powder (Pulv. Sternutorius) of the early Pharmacopoeia, powders came later to be employed for ear and throat; they are generally applied by blowing through a tube or an insufflator.

Nasal insufflations are most conveniently used as snuffs, but may also be introduced into the nose or into the ear.

The compounds must be in extremely fine powder form, free from grit and not caked; they should not be mixed in the mortar but lightly blended on paper with a bone spatula, then passed through a sieve once or twice, using a brush for this purpose. The composition of insufflation enables them to adhere to the mucous membrane. A gum or gum resin, dry powdered soap and stearates are good adhesives.

It will not be out of place here to mention a few properties of the nasal mucosa and nasal applications. Nasal applications may be made by dropping saline or oily solutions to the nostrils, by irrigation or sprays or by swabbing. The nasal mucosa is sensitive to hypotonic and astringent solutions, less so to hypertonic solutions. Absorption occurs easily, so that the effects of pituitary, insulin and allergic agents may be produced. Nasal injections of local anaesthetics have often caused serious poisoning. The nasal mucosa is a natural channel for securing immune reactions and has been used for this purpose. Originally the Chinese used to inoculate against small pox by this method and this was said to have been introduced into England later by Mead.

Snuff is usually the name given to a powdered preparation of tobacco used for inhalation. It is made from fire cured

leaf and stems of tobacco which are fermented before and sometimes after grinding. Salts and flavouring agents are frequently added in considerable amounts. There are, it is said, two forms of snuff, the *light* containing ground stems and the *dark* which is made from steamed leaf. Snuff contains 0.29 to 1.17 % of nicotine. The daily consumption of snuff by confirmed users is said to furnish about 20 — 60 mg. of Nicotine. The tranquillising, soothing and stabilising effect of snuff on the psychic and emotional functions can be described only by a snuff addict.

The problem of whether snuff is really having an action claimed by the addicts or not, is yet to be tackled. Whether denicotinised snuff (on the analogy of denicotinised tobacco for cigarettes) or placebo is going to have the same effect is yet to be determined.

Apart from tobacco, various other medicaments are used as snuffs.

The *Catarrh snuff* is a powder used for coryza. Ferrier's snuff, also called *Pulv. Anticatarrhalis N. F.*, is the *Insufflatio Bismuthi et Morphinae B. P. C.* (1934).

Bismuth subnitrate	75.0 G
Morphine hydrochloride	0.4 G
Acacia, in powder to	100.0 G

From a quarter to half an ounce is to be used in the course of 24 hours for cold in the head. The formula was originated by Sir David Ferrier in 1876.

There are a number of snuffs used in hay fever and allergic disorders. B.P.C. 1934 mentions an Adrenaline compound.

Adrenaline	0.1 G
Boric Acid	24.0 G
Camphor	2.0 G
Menthol	6.0 G
Oil of Eucalyptus	1.0 ml
Potassium Chlorate	12.0 G
Lycopodium	87.5 G

Another adrenaline compound goes by the name *Martindale's* formula.

Adrenaline	1.0 G
Zinc stearate	100.0 G
Heavy magnesium carbonate	900.0 G

Used in hay fever.

The *Astringent nasal powder — Insufflatio* astringans

Pulv. acidi borici	oz. ½
Pulv. tragacanth co.	dr. 2
Menthol	gr. 5
Acidi carbolici	gr. 5
Liq. formaldehydi	min. 10

The real, *Sneezing powder* :- We come across many lay people using snuff to 'get rid of the cold in the head'. The deliberate use of snuff in such a case helps the man to blow his head off by sneezing and perhaps, get rid of his cold. A prescription is mentioned below, the original *Pulvis sternutamentum,* French codex 1884.

Marjoram leaves	2.0 parts
Orris root	26.0 parts
Boric acid	4.0 parts
White hellebore	0.3 parts

The powdered drugs are well mixed. Other sneezing snuffs contain powdered soap or powdered quillaia as the active ingredient.

Patients suffering from perennial nasal allergy are extremely distressed by constant oedema of the nasal mucosa. Unfortunately the offending allergies cannot always be discovered. Antihistaminics do

not always modify the symptoms while nasal decongestants are so habit-forming that they are better avoided. *Hydrocortisone* in spray form or as snuff is being tried experimentally in the attempt to restore normal physiological function. It is known that cortisone and hydrocortisone have this ability to damp down the inflammatory reaction and in some unexplained way seem to modify this allergic reaction. Herxheimer & McAllen (1956) reported this benefit of hydrocortisone snuff in hay fever subjects during the active phase.

In *diabetes insipidus,* intranasal administration of posterior pituitary may produce some improvement. However, such a therapy is not effective and reliable (Blumgart 1922), but frequent injections of posterior pituitary can be circumvented by such topical applications.

Dried posterior pituitary gland may be used as snuff 0.15 Gm/day, divided into two or three doses (F. M. Smith 1934).

Insufflatio Pituitarii (Pituitary snuff)

Powdered pituitary posterior lobe (acetone dried)	..	45 Gm.
Lactose to	..	100 Gm.

Cocaine : Cocaine addiction is one of the major addiction problems of the world. The drug is used for its euphoric effects chiefly. One of the methods of administration by the addict is the use of cocaine as snuff. Cocaine being a vasoconstrictor drug, produces necrotic reactions, on chronic administration. So in many cocaine addicts, using cocaine as snuff, the nasal septum is usually ulcerated and perforated.

Occasionally dry cocaine powder moistened with adrenaline solution to form the so called "cocaine mud" is used for local anesthetic action on the nasal mucosa but the practice is likely to be dangerous.

Insulin : Horwitz (1931) recommended administration of insulin as snuff into the nostrils. He claimed effective but irregular absorption of insulin. Perhaps, modifications of such insulin, may in some later day, make all diabetics carry a snuff box but containing insulin powder and thus avoiding frequent injections.

Vitamin B 12 : Recently Israels and Shubert (1954) administered to pernicious anaemia patients Vit. B 12, in the form of snuff.

It has been found to be an effective form of treatment, and the doses required are of the same order as those given by the intramuscular route. It is therefore relatively inexpensive.

Vitamin-B 12 snuff is a useful alternative to intramuscular injection for suitable patients.

" .... so, I had to do that. Now it is time for me to be off. What did you say ?" V asked me, breaking my reverie.

"Why don't you give up this habit of using snuff ? It doesn't become of you. It only causes anosmia and un-aesthetic appearance. Probably, in a few years, the M. R. C. may come out with a recommendation for cutting down the use of snuff for the reason that it may promote cancer formation", I cut in.

V retorted, "Bosh, that is all bunkum. *You abuse snuff ! Perhaps, it is the final cause of the human nose !*"

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Citric Acid	...	0. 25 %
Menthol	...	0. 05 %
Glycerine	...	0. 10 %

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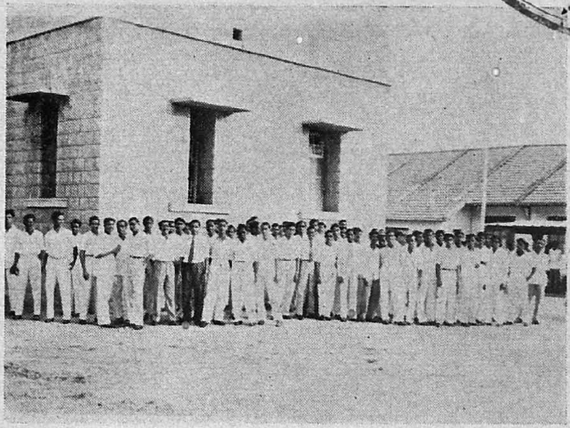

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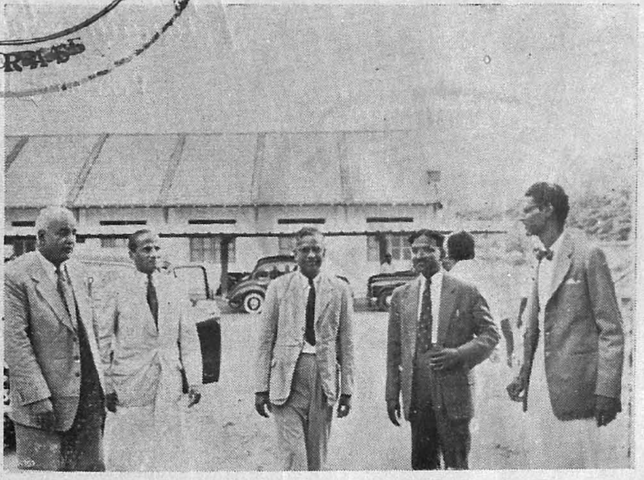

The arrival

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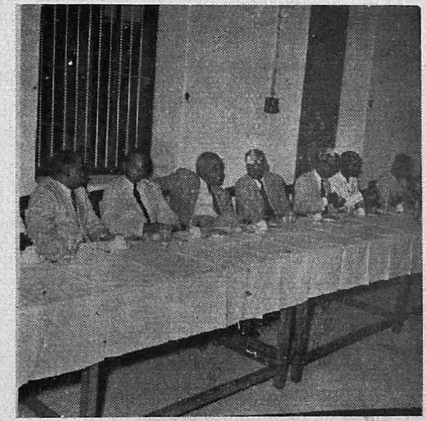

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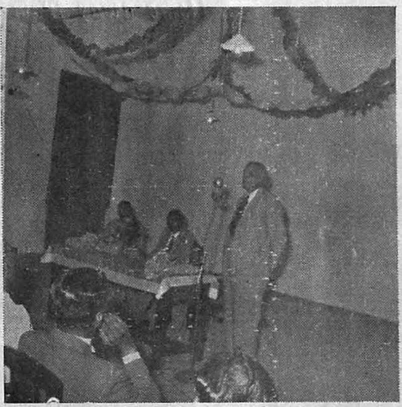

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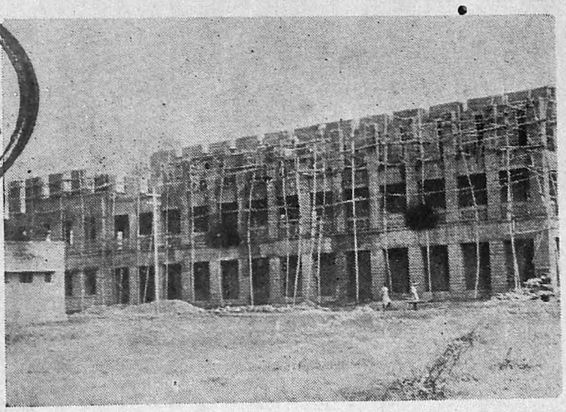
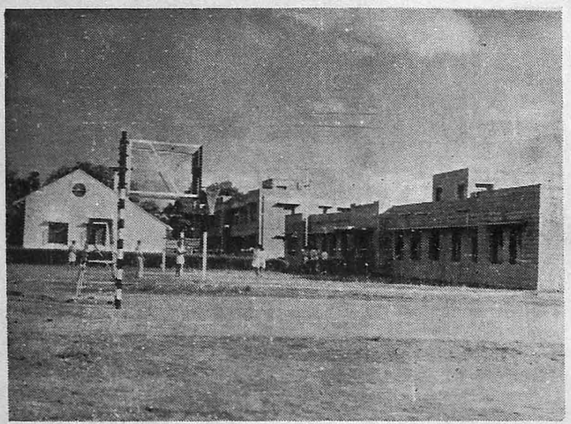


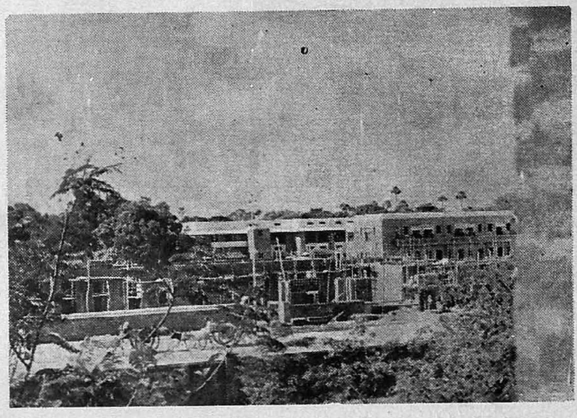
Dept. of Social and Prev. Medicine

Home away from home!



Men's Hostel

Out-patients! Come in!



The New Out-patient Block

Photos-courtesy: Dr. V. S. Ramaswami

Inter - Collegiate Sports

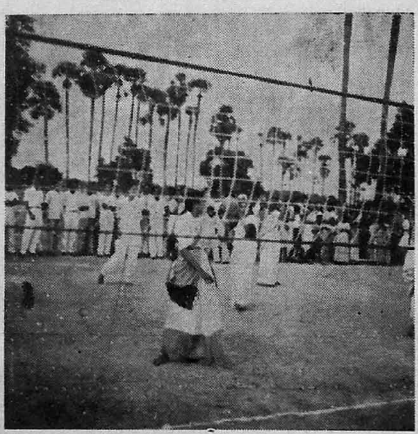


Photo-Courtesy: Mr. S. Jamal

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MADRAS

Ultra Violet Rays for Health

NATURAL AND ARTIFICIAL SOURCES OF THESE RAYS — THEIR USE IN OTHER SCIENTIFIC FIELDS.

By

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ALL peoples in the world consider that the greatest and the most valuable possession in the world is health and the promotion and preservation of health from the individual aspect to the national and international levels is considered to be one of the foremost and important duties of a responsible person and a civilized nation. For the enjoyment of perfect health, from the earliest times, the value of sunlight has been realised by our ancients. From the Bible it is seen that the Arabians, Egyptians, Isrelites, Romans and Syrians were all worshippers of the Sun. The first day in the week is so called the Sunday as it is dedicated to the Sun. The sun is considered by the Hindus as the divine giver of light, life and fertility and the Hindu starts each day by offering prayers to the sun.

It is reported that as early as the period of about 400 B.C., Hippocrates had a health temple built for Aesculapius, the Sun, Medicine and Music god. Natural sources of air, light and water were chiefly used by the priests of that temple who were also practising physicians. Perhaps the classical and unequalled beauty of the Greek form of both sexes is due to the treatment given by the priests, who, in addition to the spiritual uplift looked after the physical form of the worshippers !

The early Egyptians built a number of temples to their Sun God who was called Ra or Re and they styled themselves with the title of "Son of Ra." In ancient India the Aryans idolized SAVITAR, who was to them a combined two in one as a Sun God and Divine Physician. Open parlours and galleries called as THERMAE or SOLARIA were constructed in every Roman's house and the Greeks called them as HELIOSES. These were used by the members of the family to have exposure to sun's rays. The Germans named their God of healing as 'WOTAN-ODIN' and the Sun was called 'WOTTAN'S EYE'. The children of the house were exposed to WOTTAN'S EYE on house tops.

Though such historical records reveal that the sun's rays were made use of for the improvement of health from ancient times, it was not until the concluding years of the last century when the Danish scientist FINSEN even as a medical student, from his observations established what is now known as "LIGHT THERAPY". All scientific announcements have a personal touch of the author's observation. A cat was seen by Finsen to doze on a roof top, which was partly sunny and partly shaded. As the shade advanced in its extent, the cat moved into the sunny part and it did the same regularly. This intuitively

sought for sunlight by the cat aroused Finsen's interest. At another time he noticed a tiny skating bug darting about on the surface of water doing the same as the cat. After some experiments, Finsen established that the sun's rays have their beneficial effects. Thus he became the father of "LIGHT THERAPY".

The sun's rays were analysed as early as the year 1666, by Sir Isaac Newton and found to be composed of luminous light rays of different colours, the red, orange, yellow, green, blue, indigo and violet, which are visible to the naked eye and called the spectrum. Later on, it was found that the solar energy has two other types of rays. They are beyond the violet end called the ultraviolet and after the red called the infra red. Both are invisible and can be felt only by the effects they produce.

Sunshine gives energy and life and the sun is the mightiest source of natural ultraviolet rays. Direct exposure to sunlight is very beneficial. With the advent of civilization, there is a growing tendency on the part of the people to migrate to towns. Little do they realise that they are losing the stimulative tonic effect of these natural rays in uncrowded places. In towns, living is under a canopy of air polluted with dust and smoke and in large industrial areas in the West, mist and fog, all of which absorb the ultraviolet rays from the sun. Added to this the tailor-made men and women that we are, the rays are absorbed by the clothes. Even in our country we wear more than the clothing that we need. Also for most of the available few hours of sunshine in Western countries, persons are shut up in closed doors in factories and offices, so much so they get only a little of sunlight transmitted through door openings and windows. In this respect our country is much better than the Western countries.

A large percentage of the beneficial ultraviolet rays from the sunshine of mountainous regions with a large stretch of snow, such as the high Alps reach the earth's surface and on the continent health resorts are set up near these places. Effects of sunlight cause vital changes in the structure of plants growing under the sun. The fragrant smell of the rose, the juicy pep of the tobacco and the poisonous effect of the belladonna are all due to the structural changes brought about by sunlight. And likewise an exposure to the sun gives a person a glow of health, flow of physical and mental energy and are enduring to one's life.

Not all persons can afford to spend even a few days in health resorts. And the way to health for those who need the rays can be had only by artificial methods. These are produced by arc lamps such as the carbon arc, tungsten arc and the mercury vapour lamps. Of all these, the mercury in quartz lamps have come to stay. These contain high pressure mercury vapour contained in quartz tubes, for glass walls absorb most of the ultra violet rays. When a mercury vapour arc is struck, it is just like the incandescent tube lighting. These mercury vapour lamps give a good supply of ultra violet rays. The well-known makers of these lamps, Messrs HANOVIA, have designated these lamps as the "ALPINE SUN". The advertisements give the facts without exaggeration, such as a "Sunbath with the Alpine Sun in your home is as good as a Sunbath at high altitudes". A Sunbath can be had at any part of the day or night and that too under complete privacy. The Alpine Sun though artificial can be made to shed its energy at our command even in the dead midnight. And all one has to do is to strike the are by putting on the switch. There are certain other types with reflectors and the

whole equipment is quite handy resembling a large powder compact.

Irradiation by these artificial rays improves the general health and stamina. Whole body exposures called body bath are highly beneficial to sickly persons and especially to the expectant or nursing mothers and growing children. During treatment, a person feels nothing except a mild sensation of warmth due to the heat of the lamp. The person undergoing an exposure wears minimum clothing on his body and a pair of protective goggles for the eyes, as the direct exposure of ultraviolet rays affect the eyes.

In Western countries factory workers, school going children and other such groups of persons get a daily body bath and these are done on a mass scale with the equipments suitably arranged. Such mass irradiation maintains the health and efficiency of the staff, and children.

Ultraviolet rays play a very prominent part in the complete destruction of bacteria. Air serves as a medium for the transmission of many germs which attack the respiratory passages. Sneezing, coughing and even talking in places such as theatres, hospitals and schools are all responsible for the spread of air borne infection. Many diseases such as polio, diphtheria, tuberculosis and even the common cold are spread through air. Discharge mercury vapour lamps hung at appropriate heights from the ceilings in operation theatres in hospitals help towards a successful operation as the bacteria are destroyed by the ultraviolet rays. The risk of infection through air is completely eliminated by the germicidal irradiation of the air by the ultraviolet rays.

Irradiation with ultraviolet rays is done for the sterilization of water. Water in a pure form is difficult to obtain in Nature. It can be had only by distillation. Certain minerals associated in very minute traces give the palatable taste to the drinking water. But terrestrial water is also polluted with pathogenic bacteria. The water borne diseases such as cholera and typhoid and some of the worst scourges of mankind can be easily arrested at the water source itself by passing the water through ultraviolet rays. Efficient circulatory arrangements for effecting this sterilization have been developed and special types of ultraviolet equipments are used.

An important property of the ultraviolet rays is made use of for very many scientific aids. The ultraviolet rays cause fluorescence of the object over which they fall or strike. The material exposed flares up and this phenomenon of "shining light" is known as fluorescence. A lighted candle when viewed under the ultraviolet rays shows a bright bluish glow. This "fluorescence" is made use of in distinguishing pearls. One can distinguish with ease and quickness the cultivated ones from the genuine and artificial. Oriental genuine pearls give a blue colour while the cultivated ones give a yellow colour and the artificial ones no fluorescence at all. Old parchments are examined and their age estimated by these fluorescent rays. Lamps used for these purposes are known as analytical lamps which are so made as can be carried in brief cases and hand bags.

On the spot, purity and genuineness of textiles, wool, yarn and a thousand one articles can be individually identified by their characteristic fluorescent colour effects. These analytical lamps are used by philatelists, cashiers and criminologists. Instant tests of suspected counterfeit currency can be done in the Banks

and Post Offices and the culprit can be arrested immediately at the scene of the crime. Secret inks similarly fluoresce under the ultraviolet light and lovers can make use of it for discerning their letters under these rays. What appears as a plain white paper will reveal the endearing language of love.

Thus these ultraviolet rays are not only useful for improving health but also serve as scientific aids to human welfare.

And when the Sun is such a benefactor giving the beam of beneficial rays, how unkind we are in cursing the summer Sun !

"I complained I had no shoes until I met a man who had no feet".

* * * *

The best reformers the world has ever seen are those who commenced on themselves.

* * * *

Don't waste the years in vain regret
For joys that passed you by,
The future is yours, there is promise yet —
Great things before you lie.

* * * *

Failures interest me more generally than success. If I am asked why, my answer is that they seem to reveal human nature more truly and more encouragingly than anything else in the world.

L. Housman.

* * * *

Let him that would be happy for a day, go to the barber, for a week marry a wife, for a month buy him a new horse ; for a year build him a new house ; for all his life time, be an honest man.

* * * *

What you hear, you forget,
What you see, you remember,
What you do, you know.

Structure and Function

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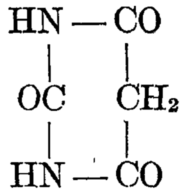
"IS IT required of a doctor to familiarise himself with the molecular architecture of the various drugs that he has to handle ?" is a common question confronting the doctor as well as the Organic Chemist. Most of the drugs that the doctor uses come under the province of Organic Chemistry. The Organic Chemist, for his part synthesizes newer and newer drugs, studies their physical and chemical properties, establishes, if possible, their molecular configurations and passes them on to the medical profession which has to evaluate the bio-chemical, physiological and pharmacological as well as toxic effects of the drugs with a view to assess their therapeutic value. Of course, the medical man might, by chance, knock at the medicinally effective drugs by the method of 'trial and error' after a tedious experimentation of each and every one of the drugs placed at his disposal. Picking and choosing an effective drug from among a multitude would be much easy if the doctor takes the trouble of knowing the molecular structures of the drugs he is experimenting with. This is because there is a close relation between the structure of a compound and its functions. In many cases, it is the structural skeleton of the molecule that seems to decide the bio-chemical and other functions of the drug. If, for instance, we know that a particular structural unit has, say, a sedative or hypnotic function, any new drug having such a structural nucleus might be tried, perhaps with success, as a hypnotic or sedative.

Taking a specific case, the sedative and hypnotic action of the barbiturates is due to the particular nuclear skeleton of Barbituric acid.

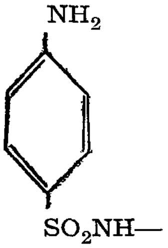


Substitution of various groups like ethyl, phenyl, allyl etc. for the two hydrogen atoms of the CH_2 group in the above skeleton gave a series of barbiturates as Veronal, Phenobarbital, Luminal, Aprobarbital etc. Whatever might be the derivative, all these barbiturates functioned as soporifics or sedatives or hypnotics with of course a gradation in potency. This unequivocally proves that there is a definite relation between structure and function.

Taking the case of ethers, members of the homologous series of ethers are characterised by an oxygen bridge in their

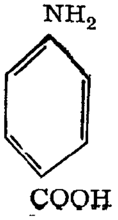
molecules (— o — group). Diethyl ether is a potent anesthetic. Another compound divinyl ether which has structural similarity to diethyl ether has proved its mettle as a powerful anesthetic having a potency about 7 times that of ether. The effect appears to be associated with the affinity of ethers for cell surfaces, possibly with resultant alteration in the permeability of cells.

Another striking illustration for the relation between structure and function is afforded by the various Sulpha drugs. Most of these sulpha drugs are characterised by the structural unit :



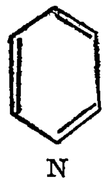
Sulpha pyridine, Sulpha thiazole, — diazine, - merazine, - methazine, - guanidine etc., contain this nuclear core. The bacteriostatic or bactericidal action of the sulpha drugs may be ascribed to this nuclear skeleton. It is only with this view, that thousands of substances having this nuclear unit were synthesised and tested.

It will be interesting to note that the bacteriostatic or bactericidal action of the Sulpha drugs are due to their structural similarity to the Vitamin—Para amino benzoic acid (PABA), whose structure is :



PABA is the growth factor for several bacteria. When a sulpha drug is administered, due to the structural similarity of the drug and PABA (Vitamin) the bacteria are 'deceived' and instead of taking up the vitamin they take up the drug (say Pseudo PABA) and consequently they either don't grow or they die. This is called biological antagonism or competitive inhibition.

Biological antagonism is met with in the administration of isonicotinic acid hydrazide for the treatment of T. B. Isonecotinic acid bears a structural similarity to Nicotinic acid which again is a vitamin. Both have a pyridine ring :

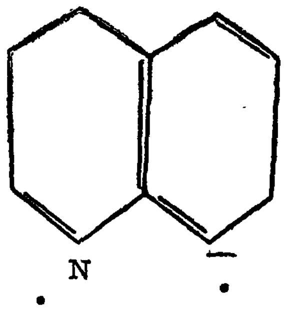


with a—COOH group attached. In this case also the bacilli being 'misguided' by the isonicotinic acid derivative due to structural similarity, do not feed on the vitamin—nicotinic acid. The above two illustrations show that even the bacterial functions are dependant on the structure of the molecules.

The various Penicillins, F, K, G, and X have the same nuclear skeleton. By just altering the substituent group it may be possible to synthesize very powerful antibiotics.

The various antimalarials — quinine, cinchonine dihydro quinine, plasmochin, pentaquine etc. also are structurally similar in that they have a quinoline nucleus

in their molecules and exhibit a common function.



Thus the structure of any new drug or even of an existing one might predict, with a certain amount of precision, the bio-chemical, physiological, pharmaco-logical and toxic functions of the drugs. As such, it becomes imperative for a doctor to be familiar, though not with the entire molecular structure, at least with the nuclear skeleton of the compounds, as such a knowledge would considerably lessen the boredom of indiscriminate experimentation of the thousand and one drugs he comes across every day.

Always run to the short way ; and the short way is the natural ; accordingly say and do everything in conformity with the soundest reason. For such a purpose frees a man from trouble and warfare and all artifice and ostentatious display.

— *Marcus Aurlius*

* * * *

" The Delphic oracle said, I was the wisest of all the Greeks. It is because that I alone, of all the Greeks, know that I know nothing.

— *Socrates*

* * * *

" One is more honest in youth, and to the age of thirty years, than when one has passed it. It is only after that age has passed that one's illusions have been dispelled. Until then, one resembles the dog that defends the dinner of his master against other dogs ; after this period, he takes his share of it with others.

— *Chamfort*

* * * *

The hardest tumble a man can take is to fall over his own bluff.

* * * *

The Golden Age was never the present

— *British Proverb*

Faith, Suggestion, Hypnosis

By

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FAITH — SUGGESTION — HYPNOSIS in day-to-day activities of life are the charm and essence of human progress. On these qualities life revolves and it forms the nucleus for growth and mental development. The value of faith as the guiding force for the mind can be well appreciated not at the beginning of life's career but at the fag end of it. When the mind wanders with retrospect on the reminiscences of the past, it is usually the complaint of many that his or her career could have been better shaped if only there was this guiding force, mutual faith and understanding. This great quality gives mind motion and velocity, to pass through life, gathering experiences which in turn controls further development and progress. The suggestions which come to the mind and the actions of those in the environment guide the mind and modify its momentum. It is this which gives the mind its shape and character and assigns to it the particular level in the psychological strata of development. Mind can be carved and chiselled by the environment especially when its response is encouraging. All these have a hypnotic influence on a growing mind using the term in a psychological sense. Hypnos being a name given to the God of Sleep, in the present context it indicates intense receptivity of the mind resembling the state during half sleep.

So, life is only a development in a world of the unknown, the future progress of which is all a fog, and the result of human endeavours depends on experience and foresight, on facilities and encouragement afforded, on heredity and environment. None can achieve intellectual or worldly superiority without the driving force of an environment seething with problems and at the same time bringing pleasant surprises and good results. The line of progress and the mode of solving the problems of life depends on faith in the environmental factors which can make or mar the future progress. Everyone, regardless of the result of action, plunges into a *modus operandi* of the problem, to some extent guided by previous experience and faults of others. World and man can never progress if there was no faith and belief in whomsoever it may be — in God, in man, in himself or on all. The scientist pursues his problem with faith, the labourer works with faith in the master, and the child progresses with faith on the parents and parents with faith in their children. It is only when this fundamental factor loses its importance that the progress of mankind, of nations in particular, and the world at large becomes retarded ; chaos and confusion rule the mind resulting in upheavel, aggressiveness and brutalism. Nations flare up against each other unmindful of the consequences when fear and frustration prevail ; — when faith is no longer respected. So, for peace and constructive life, the principles of faith should be developed under the hardest

and trying of circumstances without any doubt of the ultimate result.

Hypnosis was looked upon and even now thought to be a cult and a charm. It is neither a gift nor a possession of a superhuman being. It is only a normal psycho-physiological phenomenon seen in everyday life in the activities of all human beings. It is a fundamental mechanism by which the human mind is moulded from the time of its inception to the end of its existence. The activities of life and the progress of humanity are closely and intimately mixed up with this psychological phenomenon — hypnotic suggestion. It is through this mechanism that the controlling and dominating force of the mind is exhibited and exercised in the activities of life. It is a common expression to use — "He is a dominating personality". It only indicates that the purview of his influence and the charm of his person have spread over a wider sphere of activity and his position and place in society are elevated to a higher level. If the minds and lives of these personalities are searched carefully, it will not be incorrect to state that faith in fellow human beings, respect and love for elders have catapulted them to such heights. Anyone who reciprocates and respects faith with intelligent and mature reasoning has in all possibility solved the problems and difficulties of the mission on earth. Each one with experience and enthusiasm behind him, can in his own professional, cultural, educational and theosophical sphere mount to reasonable success with faith in industry and hard work and respect to the work and problem at hand. Carlyle said there is a "sacredness and nobleness in work" and it can be emphasised that faithfulness in work and faith in the ultimate result is the keynote of a mature mind which will be crowned with success.

In the Old Testament, Talmud, PENTATEUCHI and even now, faith in spiritualism was the guiding force of kings, nations, the sick and the healthy. Superstitious beliefs and faith in mysticism were rampant. David and the other kings did not hesitate to consult seers and sometimes unwisely, regulated their conduct accordingly. In the Greeco-Roman period monitions were experienced and oracles consulted. To the healing temples of ancient Greece and Egypt came the mentally ill, to be treated by incantations and religious rites. Even now, the temple of Apollo is a famous historical monument of ancient glory where the suffering and the ill derive inspiration and health. It is a fountain of life and a glorious example of inspiration out of faith. In the early days of Christianity and in the Hindu religion even up to this day, the abnormals were considered to be possessed by the devil and it became the duty of the church to drive out the evil demons by exorcism, prayer and sprinkling with holy water. If these methods failed, violence was applied on the principle to drive the devil from within the body. It is a curse and a sin to see the plight of these helpless individuals tortured and teased on the mistaken interpretation of spiritualistic hypothesis. It is a satire on life and mistaken interpretation of faith. It is said in the Talmud that a Doctor must be a priest. It was a requisite qualification for a healer of the body to be a healer of the soul too. This duality Priest-Physician was common amongst the Jews indicating the dignity and sacredness of the profession — art of healing which can be handled by the cleanest and noblest of men. The teaching of temporal as well as spiritual matters is inseparable. The sanctity of the medical profession is not well exemplified at the present day. But even now character and behaviour are important features in the lives of

foremost healers. They give them an unique superiority, when religion is mingled with doctoring. There is always a tinge of mysticism and spiritualism associated with religious orthodoxy and superstition which is often displayed by a physician who practises the art of Medicine. This always enhances the faith and endows his trade with a hallmark of superiority. The "healing appeal" is advertised and propagated.

This method of plying the profession has a singular appeal to the public. The numerous advertisements seen in the daily papers have a similar attraction to the sick. When cure is guaranteed through the use of valuable gems and costly metals the attachment and enticement to the healer increases. The response from the public whether rich or poor, educated or uncultured is the same. The art of healing is a Science by itself. It has no relationship with the science of Medicine. Healing can be practised by quacks or charlatans without a knowledge of the basic principles of medicine, with prayer and incantations, by ceremonies, rituals and invocation of Gods. The art of Medicine has a profundity of wisdom behind it. It is the study of the human mind, its frailties and weaknesses, its instability and easy suggestibility in all its varied capacities. The mind of the patient is dominated by the mind of the healer to alleviate suffering and disease.

Apart from the monetary and professional aspect of the subject of faith cures which is indeed interesting, it has been the doubt and desire of human beings to probe into the behaviouristic pattern of society in all its varied interpretations. The human mind adopts and follows various methods of action in response to the circumstance and problem at hand. Growth of the mind and the mode of life is controlled by psychological reflexes closely associated with the environment and regulated by heredity. Hypnosis should not be considered from its strict dictionary interpretation but its meaning should be varied a little. From the physiological point of view, hypnosis resembles the waking state more than the sleeping state. The basis of hypnosis is suggestion. A more practical understanding and interpretation of hypnosis is to consider this state as one of deep concentration and fixation, the mind of the individual being directed along a single channel of thought by auto-suggestion. In this state *the mind becomes highly receptive* and extremely fertile to absorb the thoughts and ideas of the environ. By such a phenomenon the individual grows in his environment, adapting himself and sometimes modifying the behaviour to grow out of the environment. The process and manner of growth become controlled and very smooth in relation to the laws of this reflex. Mind can be moulded and well shaped in a healthy environment, controlled by factors and personalities in whom there is implicit faith. Auto-suggestion and extero-suggestion of a healthy and suitable nature impressed upon a receptive mind characterises proper growth. So hypnosis can be used as a basic reflex for mind development in the view of its modified interpretation. Life and intellectual growth are based upon suggestion, action and reaction to it.

Hypnosis in its natural perspective is demonstrated and exemplified well in the daily routine of life. The control of the infant and its healthy development is guided and shaped by the parents and close associates through suggestion and persuasion, two essential methods of steering the child to mental perfection. When these qualities are lacking in the

parents or are not utilised properly the child may become a problem child, and the pattern of mental reaction is vitiated. A child's mind is very receptive to the activities and behaviour of its close associates, on whom it looks upon with great respect and devotion, whose words are the guiding force for the child and under such circumstances if proper suggestion is not forthcoming, development of the mind becomes static and may be directed along abnormal channels as a result of suggestion coming from other sources. The mother is the most important source of power for the child and her magnetic influence guides the child in all its activities. It is therefore essential that the child should be brought up in the early days strictly under her guidance and control as the faith exteriorised by the child is directed mainly towards her. Under the present circumstances of life, where speed and misdirected education have compelled the mother to change her avocation, the development of many a child become warped. The story of many criminals begins with their boyhood, when, being destitute or neglected by parents, they fall into the hands of criminals and are used for the commission of crimes and even though detected and punished, they relapse into crime as society considered them incorrigibly dishonest and anti-social. Children from higher classes of society may take up to other lesser vices as alcoholism, sexual perversions or negativism. These have been learnt by close association with such like groups. It is needless to give more examples as the basic principle of growth has been elucidated. Faith and suggestion are the very essentials for a healthy existence. Even later, during the school-going age, the personality of the teacher moulds the mind of the child. The behaviour of the teacher and the principles he follows are object lessons to the receptive and suggestive child whom the child can imitate and follow. Every child is a hero-worshipper which sometimes continues later in life detrimental to the individual. Hero-worship should stop at a particular age and should not be carried on to maturity. It indicates lack of initiative and drive, two features of an infantile mind which leans for support on stronger characters for help and guidance. The child takes a fancy for hero worship to some personality in school, or in the athletic field or elsewhere, whom it considers as the most ideal person and follows his footsteps. This fancy is usually prompted and directed by the child's heredity, and the personality of the hero who has probably played the most impressive role in the mind of the child. It is therefore imperative that a child who should develop squarely and all-round, should be put under the guidance of a master with mixed qualities and interest, of a cosmopolitan outlook, broad-minded and free of inequalities and social handicaps. Life in a hostel from the very younger days may not be useful to the proper mind development, as the child associates with various types of children with different behaviours. Hostel life will be ideally suited to an individual who has reached an age of discrimination, when good and bad can be differentiated and healthy suggestions alone followed. So the future adult is shaped as a result of boyhood experiences and the intensity of the incidents of the past. Intellectuals have been created not at birth but by parents, teachers and other close associates who by intensity of suggestion have created a resourceful mind. Receptivity is also increased *pari passu.*

Interests in various aspects of life are created even at an early age depending on the individual's associates. A child of a doctor has a craving to follow the foot-

steps of his father and the child often takes a deep interest in the parental profession. Not only does the child display interest but the quality and dexterity of work in that particular field are excelled. It is often said that the children of intellectuals never emulate the parent. This statement is not infallible and needs to be interpreted with great care and reservation. It would be correct to say that children of intellectuals have not been given the proper training, schooling and suggestion as the grandfather gave the father of the child. The individual, so to say, as a result of various factors was grossly uncared for and neglected, perhaps by the intellectual father following his intellectual pursuit to the neglect of his own child.

In married life the harmony of a household depends on the value of mutual faith and suggestion. A couple can live in peace and contentment if one is guided by the other. This is not a peaceful coexistence or diplomacy out of respect or fear to either partner but a life controlled by implicit faith in the other. Even at work, faith and implicit loyalty, to the master develops character and from it is born, sincerity, devotion etc., which help and urge the mind to ascend higher up the ladder. Faith and sincerity to the self is closely related to this greater quality of human dignity. This is the point in which the values of democracy, religion and medicine agree, the value and dignity of the individual, the value of human understanding and kindly relationship with and assistance of another person who must himself continue his unremitting struggle to find an adjustment and meaning in his life (OZZANI). This is inter-personal relationship. Faith develops character.

Those who are not conscious of this bond of human rapport and faith are not aware of the value of this charming possession — human superiority the goal for which the vast majority of human beings strive so thoughtlessly. In all cases the results are disheartening, ultimately ending in disaster, mental conflicts and difficulties. The greatness of saints, power of dictators, nobility of kings, charm of doctors, the dignity of individuals do not depend on the worldly power possessed, or on material riches or the cult practised but upon a kindly and sympathetic attitude to all around. It is that which endows the person with superiority, a position which marks an individual as having crossed the confines of a mundane existence, a quality which helps to extricate one from the darkness and fathoms of a life of mental confusion. It also helps to infuse into others who have not attained this life of satisfaction, a sense of equilibrium, temperance and balance. Those who stride the narrow world unmindful of spiritualistic superiority, cognizant of worldly and materialistic gains, self-conscious of their place in society, forgetting their duty and mission can never attain this power of personality and the power over personality.

Another very good example of hypnosis due to faith and power of personality is to cite the orator who holds the crowd in pin-drop silence and sometimes quietens a mob which has lost its patience. This can be achieved only by a few. The sentences which flow, the force behind them and the individual himself is largely responsible for its influence. The mob submissively takes on a passive role and can be induced and stimulated to commit any act of vengeance. Blind faith controls their activities which may later lead them into turmoils and troubles. Progress and benefit can be achieved if the suggestion is without any evil devoid of an ulterior and personal motive and sel-

fishness. Dictators can rule the world with great charm and dignity through power of personality achieved through faith, suggestion, great receptivity and opportunity. When power is behind the personality, faith dwindles and the hypnotic influence wanes and his magnetic influence is lost. This is usually a natural sequence as Power of Personality rarely remains as such. When quickly acquired by opportunity and chance it transforms into power behind personality. Politicians come and go. Their influence is never continuous or consistent though at a stage they were very powerful and were centres of attraction. Their authoritative influence ceases abruptly, not by mishap, but by abuse of this power and misdirection of energy for personal satisfaction. Faith in self is forgotten and faith in others is submerged or fogged by other motives. Mind no longer continues to have this suggestible faculty on others and on itself.

The trance and hibernation practised by Yogis is nothing superhuman or miraculous. It is only a control of the body by the mind gradually and progressively achieved by practice, suggestion, and concentration. If man trains and builds self-confidence, the innate powers of auto-control can be achieved. So self-trust, self-help and self-dependence are primary factors in the development of personality. Spiritualistic superiority can never be achieved without a rigorous, ritualistic, methodical and Yogic existence. The energies are redirected into channels of self-development. Great men ever remain great because their spiritualistic superiority has been directed and exteriorised for spreading the principles of truth, justice and love which they have inculcated and practice under the guise of authority, religion, dictatorship, philosophy and philanthropy. This power should not be misdirected in politics for purely political achievement as it ceases to be virtuous. Mahatma Gandhi attained political superiority through Ahimsa and non-violence. Politics was not a means to the end. It was clothed in a humanistic outlook on the principles and practice of good living and Dharma.

Under the guise of spiritualism, Yoga, mass hypnotism can be practised with great charm and ability for the good of mankind. Spiritualism is nothing short of idealism. Are we not familiar with the great missionaries of the world, South India in particular, drawing followers from far and wide. It is wonderful that it should have such a captivating and subliming influence on the forces of the mind. Is it not a common scene to note large crowds in place of worship and herds of people taking refuge in temples and monasteries renouncing the world, moving about in costumes of a saint or a fakir, and leaving the comfort of a home and exchanging love, affection and kindness of the family to the vicissitudes of a world at large. What has prompted these individuals to change their mode of life ? Lack of faith and transference of faith in such like spiritualistic channels which have a great attraction to a mind which has lost its equilibrium and dwells in a state of unreality. Conflicts at home, at work and at other levels precipitated by the hardships of a materialistic world, the ups and downs of life, sorrows and failures and other untoward and unexpected occurrences have driven persons to find solace and satisfaction elsewhere. Their ultimate aim is to overcome their complex's and shortcomings. Many of them have achieved higher gratification, becoming towering personalities and popular figures in different orbits of life. Growth and development are slow and achievement wherever it may be, is a *sine qua non* of

industry, concentration, patience, sincerity and composure. In the autobiographies of many saints and well known personalities and the figures in Mythological tales who cannot but doubt the popularity, brilliance and omnipotence of these Masters who started as commoners frustrated with life rising to unascendable heights, spreading their faith, wisdom and learning far and wide, glittering with splendour, radiating their light like a beacon throughout the world? Spiritualism is nothing but realism. It is not a myth or a fable.

The philosophy of the mind is peculiar. Under harassing circumstances, it elevates the urges and passions, motivates the thoughts, directs them, into various channels of sublimation for self-gratification. Woes of the mind at times bring trouble to the body and many diseases met with in the practice of Medicine belong to this category of psychosomatic, psychoneurotic and personality defects. A few such diseases can be cured by the psychiatrist who has the ability to create a sense of "make-belief" in the patient. The mind can often be bridled and restrained by an authoritative person on whom the patient has implicit faith. In this state of mind they are so suggestible that the mind of the therapist can be substituted for the mind of the patient. The field of awareness of the patient is narrowed down to a small channel and the concentrating ability of patient is increased by suggestion. It tends to foster in the mind of the patient a false attitude to the disease and corresponding illusion or omnipotence to the doctor.

These are all known as "Faith Cures." The miracles of saints, prophets, and sages are true and believable. The most incurable of maladies can be remedied by suggestion at times. A doctor is an emblem of life and health, an adviser and a teacher, a priest and a guide to the lay public. He is stamped as the possessor of a charm for curing psychological ills. How many know to wield this charm? Many stories are prevalent of cures brought about by several devices as touching, uttering certain names, sometimes by the influence of a person separated by several miles. These may be true at times and often scientifically explainable. Who has not knocked at the door of a sick person and been welcomed in with visible relief and diminution of tension before anything was done at all. Whether it be sympathetic magic or not, it seems to be an integral part of medical practice, a '*sine qua non*' of the good doctor. Gowers once said, "If every drug in the world were abolished the Physician will still be a useful member to society. Needles recall Houston's teaching that the doctor himself is a potent therapeutic agent. A famous psychiatrist once said, "Western man turned away from the priest to the doctor, someone who seemed to be more efficient, more practical, someone who seemed to incorporate the admired and worshipped science and devoted it to the most attractive goal — the perfection of human health and the alleviation of human suffering. The practice of confession in the Roman Catholic Church is a medium of casting out the worries within to obtain mental satisfaction.

It is said that Charcot, the Nerve Physician demonstrated the art of healing by Hypnotherapy on Hysterical subjects through suggestion. The famous platform performances on the amphitheatre of the Salpetriere have long since been condemned by every serious student of hypnotic phenomena, and almost every single one of Charcot's theories on hypnotism has proved wrong. Hysterical subjects are as a rule less easily hypnotizable than well-

balanced and mentally sound people. Intelligent, strong-willed and domineering people are more susceptible than dull, stupid, superficial weak-minded people. *Idiots and lunatics are as a rule refractory to hypnotic influence.* All children are *easily hypnotizable.* The therapeutic *value of Hypnotism in* Medicine and *Surgery is immense in the hands of competent doctors with clear heads and clean hands, and thoroughly acquainted with the technique.*

The great benefit derived from hypnotic anaesthesia in surgical operations and childbirth is now admitted by everybody. Even more striking is the beneficial effect of this method in the most painful of all events — death. The words of hope and comfort slowly repeated by the Priest at the death bed of patients have a hypnotic value and the terror of death vanishes from their closing eyes. This probably is the value of such deathside prayers. There are other phenomena very commonly met with, which depends on Hypnotism. Snake charming — the training of wild elephants and domestic animals, the soothing influence of monotonous sound of slowly repeated words have a greater hypnotic charm than the revolving mirrors, magnets, the fixed staring in the eyes of the subject which are sheer nonsense. It has also been found that the suggestion of one operator re-echoes as a word of command in the subterranean workshop of the subjects than the effect achieved by another operator. There is some other power at work, obviously impossible to explain. What other factors operate in enhancing the superiority of various operators is left to conjecture — their behaviour, and appearance and *modulation of voice akin to music of certain varieties which has a soothing effect on the autonomic nervous system.* Music *hath many charms ; it excites, it calms,* brings happiness or sorrow, sends one into raptures or induces somnolence. Under its influence, diversity of emotional disturbances and temperamental outbursts may occur. The note which it strikes is the guiding force to the mind.

This power of the mind which term has been used in Psychology, consists of all human capacities and aptitudes especially the highest of them which is closely related to the strength of mind and intellect may be the factor responsible for this unique gift. Going still higher in the field of metaphysics or parapsychology certain obscure phenomena are noted — telepathy and clairvoyance, lucidity, trance utterances, which still remain phantasms of the living. The transference of thoughts and ideas or emotions from one person to another without the use of any of the normal means of communication — a power which has been proved to be possessed by some people, tends to throw light on a super-normal extension of physiological processes. This is intuition or real genius which affords a synoptic vision of the cosmos as a whole. This highest stage is only possible for a mind which has been through the discipline of the rational stage. Intuitive vision is not thought but rather its highest fruit — it is thoughtfulness matured to inspiration — feeling and enjoying the thing itself in which the individual realizes himself as part of a living universe. In this state he does not merely picture reality in an external manner, but feels its very heart throb and feels himself as part of it. So knowledge is the means of holding together the threads of life in a systematic unity that can fill its proper place in the cosmic system. Man always acts according to his lights. The ideas and concepts by which thought construes reality are not like " lifeless pictures on a panel " ; they are activities by which

reality is apprehended. They are part of reality, and reality is activity. A mind can be trained to a high level of knowledge to understand the structure and significance of the whole. The thoughts originating from the mind must be disciplined by slow degrees to conceive or perceive the outcome of those ideas in a comprehensive way. The mind must be sharpened and it is only the agile mind, which has the capacity to interconnect thoughts and occurrences of the present with the past and forecast the future. Intuition is only obtained by experiences and understanding the inter-relationship between all actions and consequences. All can never obtain this power or strength of the mind but only those who have a high velocity of thought processes and easy conception and understanding of the significance of such ideas. An individual who can remember his whole life history with mathematical exactitude with an understanding of the meaning of various experiences and who can draw conclusions from the many occurrences in daily life without any element of superstition, has a mind of knowledge and intuition. It is exacty like a theorem in Geometry which has many corollaries and sub-corollaries and it is only a few who can remember and apply them to problems as they arise. So also in the field of human thought and deductions, a broad and stereoscopic visual interpretation is necessary and the more rapid the serial photographic images in the mind, the future forecast and present implications can be better unravelled. This is the knowledge, strength or power of the mind which is only a photographic film recalling, recasting and remodelling the already existing visual pictures.

So it should be the aim of everyone in the world of the present day to follow certain ideals and endeavour to inculcate the most valuable possessions which will train the mind to reach heights of mental strength. Mind like the body should not be allowed to idle and procrastinate. With sincerity in faith towards the self and to others, human existence should be allowed to drift along, taking suggestions from the self and also from those who have qualified to shower advice, who are object lessons and forceful personalities and leaders in human thought. Everyone should have a goal before him, and pass through life, trying to follow the footsteps and the path left behind by the masterminds of the present or the past. It is only through this mechanism that mind can flower, its petals can open out into full bloom and spread its fragrance far and wide. This is a recall of knowledge of the known and wisdom of the wise.

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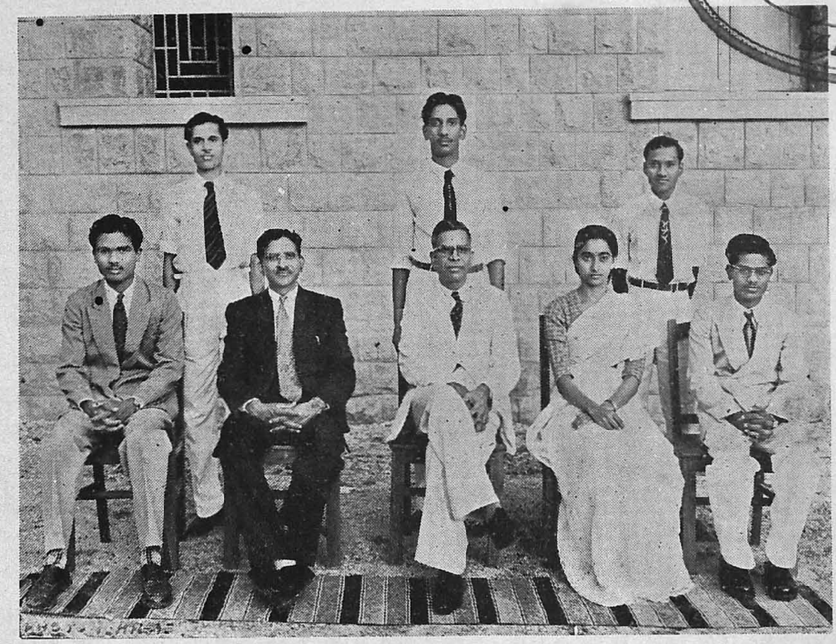

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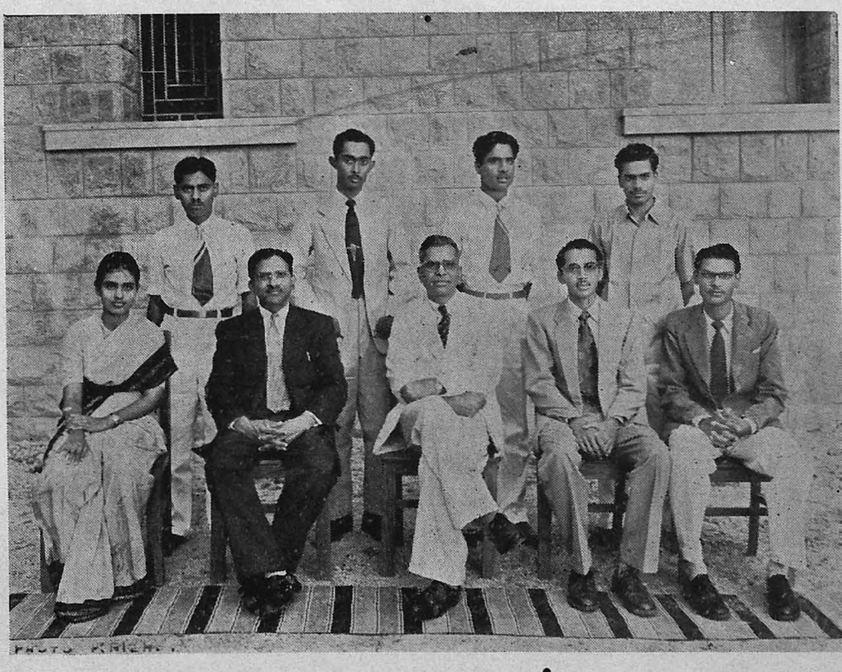

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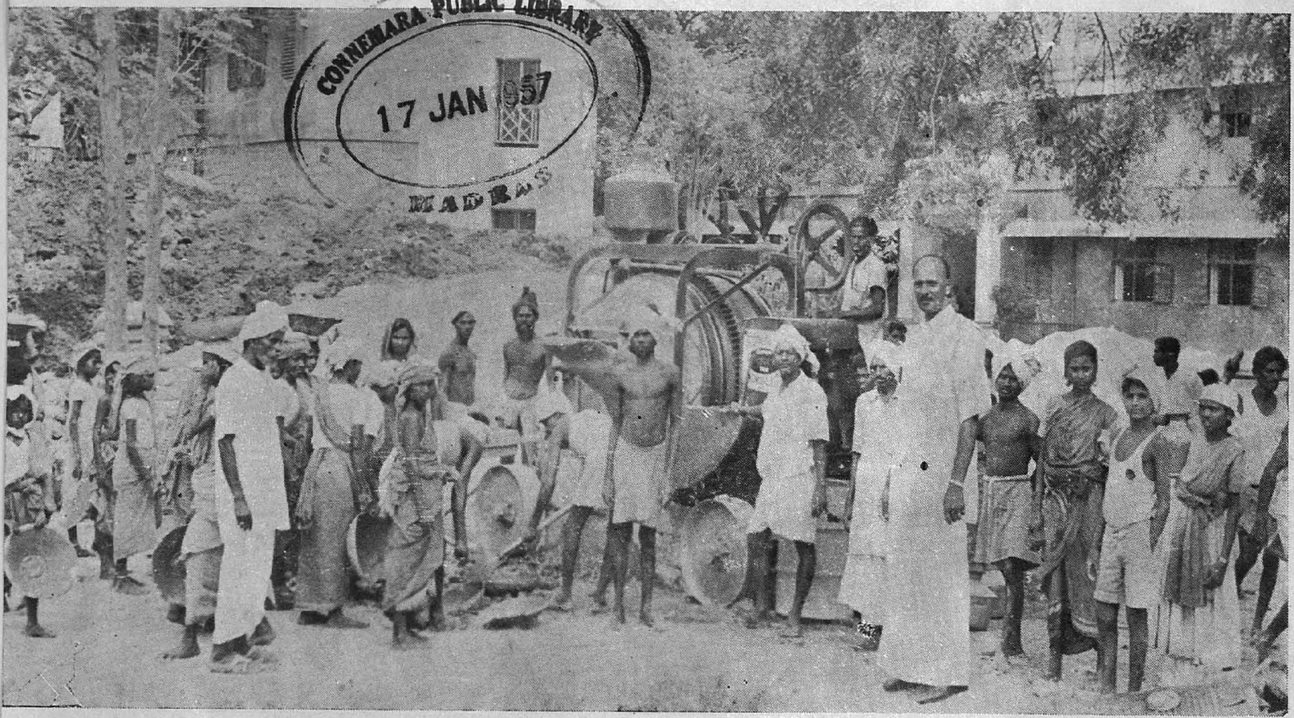
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The Human Cry

By

DR. K. ALAGAPPAN, M.B.B.S.,

Tutor in Medicine, Madurai Medical College.

THE HUMAN cry is the hue and cry of the mind. There is hardly anybody in this universe who has not cried. From the stone age to the atomic era people are very familiar with crying. Though it is very common, we very often do not think of it. In this article, I make an attempt to give some ideas relating to crying which I have heard, felt, read, seen, and appreciated but I leave the readers to think further about it deeply. We enter the wide world from the womb of our mother with a cry for which we are watched with all eagerness by our friends and relatives. So also, when we make our exit from the world after our sojourn, we part with tears from them. This time factor between crying and shedding tears in actuality is so much diminished that tears is the immediate outcome of the cry when a child starts crying.

Crying is the expression of the person to a painful or a fearful stimulus to the brain or to the mind. However, it is very common in children and infants and yet not unknown in the adults. It is indeed the unique weapon of the womenfolk! They very often use it (or misuse it ?) to win over the men. But this sex-linked difference is not met with in children where crying is on the other hand universal among children. Among the lower animals weeping is not seen. Though it is said that some lower animals can express their sorrow and grief when they are wounded, yet they do not shed tears. The apes and monkeys are said to whimper at times but they never produce tears.

The child may cry in utero before it is born (there are instances where they have recorded the child crying while in utero) but such a child will hardly come out alive and as such it is but a rare event.

The mechanism of crying is an involuntary act and it cannot be initiated at will except in actors where it may be voluntary. The cry may be started as a voluntary act and may slowly turn involuntary as seen very commonly in children. The naughty child cries to get the attention of the parents to her needs but when she finds her attempt failing, the cry slowly turns to become involuntary and soon it starts sobbing. This can be very well illustrated in infants when they are put to bed at night. It trys to get back the mother to the room, and to this cry the term "Testing cry" is given. There is a centre described by Weingrow (1933) known as the "crying centre" situated in the cerebro-thalamo-lenticulo-rubro-ponto-cerebellar pathway connected by the association of fibres and tracts with many parts of the brain and spinal cord — the afferent pathway — nobody knows, but probably through the skin (painful stimuli) the vision, or hearing or from the viscera from inside

the body. The very first sign of crying is the flushing of the face and the wrinkling of the forehead. The changes that take place during crying can be very well studied when we observe a child while it starts crying. First the inner ends of the eyebrows are drawn together and downwards. Then starts the vibratory movements of the lower lip and alāē nasi, and the pouting of the lower lip occurs. Thus the angles of the mouth are drawn downwards and the mouth is opened wide and it assumes a square shape. The tongue starts fibrillating and is hollowed out with the convexity downwards toward the floor of the mouth. Eyes are semi-closed or closed completely and tears start trickling down. The closure of the eyelids has probably got the same cause and relation as does the closing when a person starts sneezing or yawning. It is said that in the newborn tears are not produced earlier than the child is three to four weeks old. Associated with the above changes the respiration gets altered. There is alteration noticed in the rhythmicity as well as the rate. There are sudden deep inspirations, at times irregular, followed by prolonged slow expiratory excursions. In addition to the abovementioned description, the child may show generalised movements. It will be moving the arms and legs to one way or to the other and at times this act becomes a very violent one. Some children even descend to the level of knocking their heads down on the floor or to the closeby wall. As the child grows older and older the accessary movements start slowly disappearing. In the grown-up adult even the facial expressions are suppressed to a very great extent and the crying may be limited to mere congestion of the face and shedding of a few drops of tears from the eye. In a civilised set-up, the crying may be even limited only to slight euphoria and even the small drop instead of overflowing may flow through the *naso-lachrymal* duct in the usual manner. This in short is the brief description of crying.

Crying in health and diseases though can be readily distinguished in adults and grown up children is really a task in the infants and very young children.

Cretin :— Crying is very infrequent in the child and it requires an unusual amount of provocation. When in the child, in full cry the forehead becomes much puckered and the voice is strangely coarse, croaking and gruffy. This is very readily recognised by the clinician to make a diagnosis of cretinism in a child.

The feebleness of the cry is the feature of the premature baby which very occasionally cries. Again the voice becomes weak and feeble, when a child which is severely debilitated or an amyotonic child starts crying. A shrill cry is heard from a child suffering from meningitis or hydrocephalus. The screaming during an attack of intestinal colic when the child draws the thigh towards the abdomen and keeps the abdomen tense is unmistakable when the child turns pale. If the pain is unusually severe, sometimes vomiting and rarely convulsions occur during the attack. The cry that occurs due to pain, fear, or the very thought of pain is entirely different from what was described above. The amount of the cry that is produced is governed by the personality of the child. Some are the placid easy babies who will accept anything ; others belong to the group of difficult babies who very readily express their wants or disapprove of what is being done to them in the way of a dull continuous cry and be an eternal nuisance to their parents.

Crying in a three months old baby may be due to hunger or for sleep. Dis-

comfort due to wind and gripe may also be followed with crying. Sudden noises and throwing of light on the face, change in posture, bathing the baby, and cleaning him are also some of the causes of crying in a healthy child. There is discomfort when it is on the soiled napkins and hence draws the attention by the cry. Some children do cry when they pass urine and defecation, especially if the bowels are highly constipated. When they have a desire to be picked up, they start crying and stop crying once they are lifted up and held in the hands.

Crying between the ages of one to three years is because the child fails to gain its own way when the child is taught to learn good manners or forced feeding or forced to take rest in bed, it rebels against the attempt and it cries. The voice of the child in the family must be taken into consideration, or else they cry because they are not recognised and they feel that they are not identified as important members of the family. Some children even cry when they are discouraged or ridiculed. Sometimes crying is initiated for seeking the attention of the senior members of the family. Excessive cry will be the outcome if too much fuss is made at the sight of the child falling down. Crying at night in a slightly older age group is due to nocturnal enuresis (1—6 years) or may be due to fear of the darkness or shadows. Sometimes night-mares and night terrors will awaken a sleeping child and the act of crying is initiated. Thus it will be seen that crying in a normal child is more often due to functional causes rather than an organic one.

Crying and anger are entirely different yet sometimes anger precipitates crying. But as age advances one does not cry for trivial things. The cry becomes the outcome of a psychic trauma to the mind. The integration of the mental make-up to overcome the feeling makes one more masculine. As he grows older he develops the strength of the will to meet odd things and emotional upsets without traumatising the mind ; he becomes rather thick-skinned and the ordinary downfalls in life are too soft to penetrate and injure the mind.

The important thing in games is not to win but to take part ; the important thing in life is not the triumphs but the struggles ; the essential thing is not to have conquered but to have fought well ; to spread these precepts is to build up a stronger and more scrupulous and more generous humanity.

— *Baron de Coubertin*

* * * *

No horse gets anywhere until he is harnessed,
No steam or gas ever drives anything until it is confined,
No Niagara is ever turned into light and power until it is tunnelled,
No life ever grows great until it is focussed, dedicated, disciplined.

— *Emerson*

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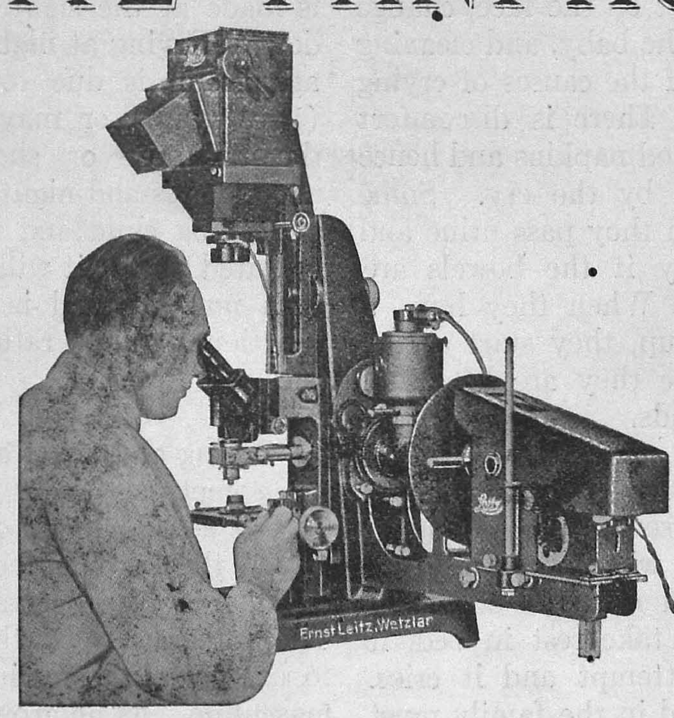

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The Anatomical Features of the Hypoglossal Nerve

by

DR. T. S. CHELVAKUMARAN, B.A., M.B.B.S., M.S., (MICHIGAN),
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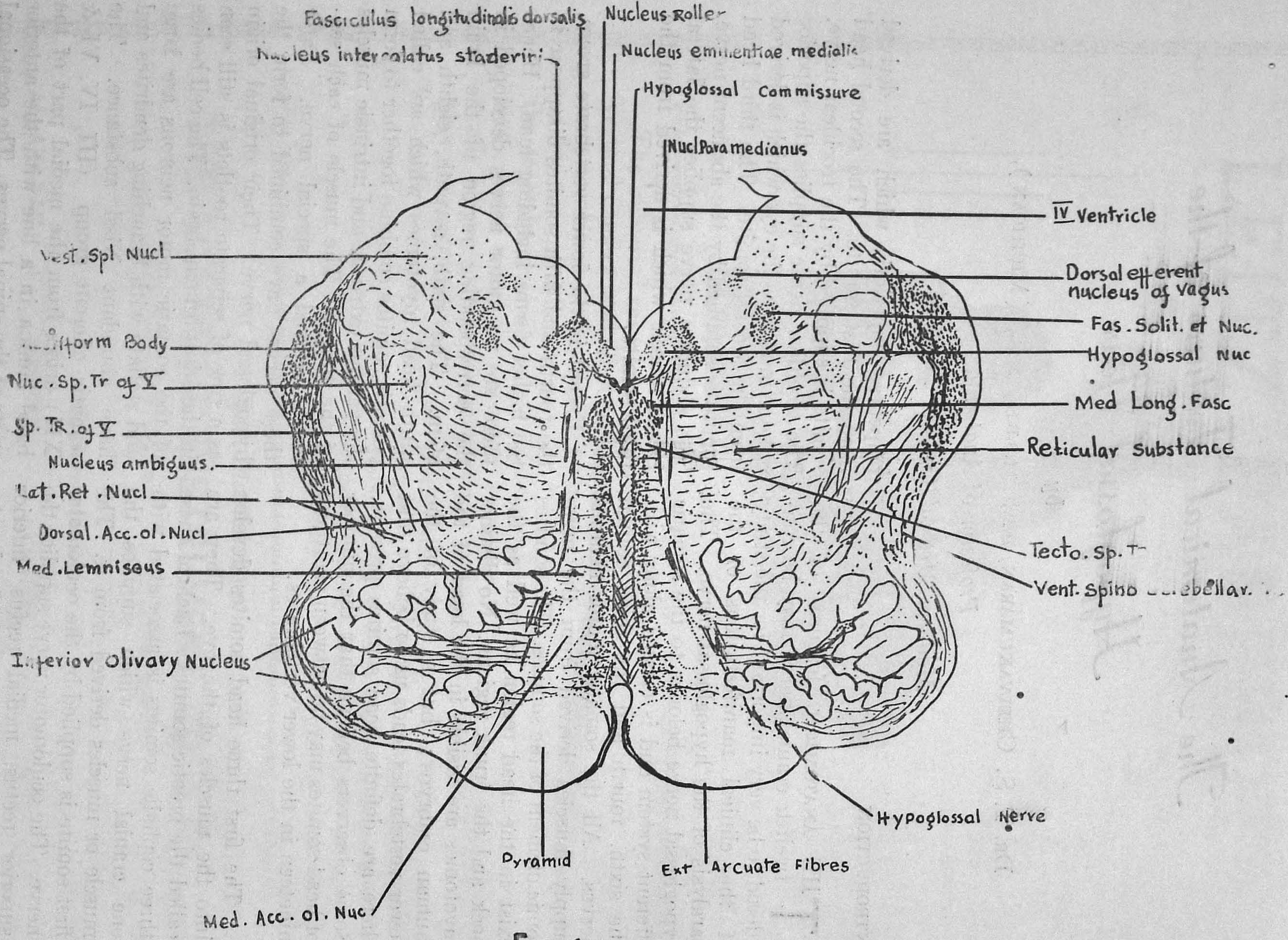
INTRODUCTION

THE ANATOMICAL features of the twelfth cranial nerve may be considered to be very important for the study of the clinical manifestations of the paralysis of the hypoglossal nerve. The hypoglossal nerve belongs to the somatic efferent system and is classed along with the sixth, fourth and the third cranial nerves. All the somatic motor neurons supply muscles derived from the myotomic element of the somites. The somites exist in the head region as well as the neck and the trunk regions. No distinct myotomes are visible in the head of the human embryos; but a study of the lower vertebrates leads us to believe that there are definite head somites present. Some observers believe that the number of head somites may be between eight and nineteen in the lower vertebrates.

The first three head somites develop into the muscles of the eye. They are called the preotic somites. Each of these three cephalic somites is associated with one cranial nerve which supplies the muscle or muscles derived from it. The first somite is supplied by the oculomotor nerve. The oculomotor nerve supplies the superior rectus, medial rectus, inferior rectus, inferior oblique and the levator palpebrae superioris which are derived from the first somite. The second head somite is supplied by the trochlear nerve. The trochlear nerve supplies the superior oblique muscle of the eye which is derived from the second somite. The third head somite is supplied by the abducent nerve. The abducent nerve supplies the lateral rectus muscle which is derived from the third somite.

Except in the lower vertebrate group, the fourth and fifth somites disappear in the higher forms including man. Hence there are no motor nerves developed in the corresponding region of the brain stem. The sixth, seventh, eighth and ninth head myotomes which are called postotic somites combine together to form the various extrinsic and intrinsic muscles of the tongue. The muscle of each segment received a special nerve. Later these nerves have combined to form the hypoglossal nerve. Their original origin as a row of separate rootlets is still seen in the adult human brain. The cell bodies of the somatic motor neurons are large and stellate with branching dendrites and have abundant Nissl substance. The somatic efferent group (III, IV, VI & XII) arises from the medial part of the basal lamina in a line with the anterior roots of the spinal nerves. The occasional



Fasciculus longitudinalis dorsalis
Nucleus Roller
Nucleus intercalatus staderini
Nucleus eminentiae medialis
Hypoglossal Commissure
Nucl Paramedianus
IV Ventricle
Vest. Spl Nucl
Dorsal efferent nucleus of vagus
Fas. Solit. et Nuc.
Hypoglossal Nuc
Nuc. Sp. Tr of V
Med Long. Fasc
Sp. TR. of V
Reticular Substance
Nucleus ambiguus.
Lat. Ret. Nucl
Dorsal. Acc. ol. Nucl
Tecto. Sp. T
Med. Lemniscus
Interior Olivary Nucleus
Hypoglossal Nerve
Pyramid
Ext Arcuate Fibres
Med. Acc. ol. Nuc

FIG. 1

presence of a ganglion (Froriep's) on the hypoglossal nerve suggests that this nerve had the sensory fibres earlier in phylogeny. The presence of the sensory components in the adult human hypoglossal nerve has not been satisfactorily demonstrated.

STRUCTURE AND COURSE :

The hypoglossal nerve is the twelth cranial nerve which takes origin from the hypoglossal nucleus in the medulla by several rootlets and leaves the skull through the anterior condylar canal (Hypoglossal canal). After going through the carotid and digastric triangles in the neck it terminates in the muscles of the tongue.

The hypoglossal nucleus is a slender narrow column extending from a level immediately above the decussation of the pyramids to the level of the medullary striae. It is about 18 to 20 mm in length. In the closed part of the medulla, it is just ventrolateral to the central canal ; but higher up it assumes a more dorsal position and its swelling forms the trigonum hypoglossi in the floor of the IV ventricle. The cells are large multipolar elements similar to those of the anterior grey column of the spinal cord. It is the only somatic motor nucleus in the medulla oblongata. It lies in a line with the anterior horn of the spinal cord caudally and abducent, trochlear and oculomotor rostrally. The hypoglossal nucleus overlies the medial longitudinal fasciculus and the dorsal efferent nucleus of vagus lies dorsolateral to it.

The twelth nerve nucleus is related to four small nuclear masses known as (*i*) Nucleus paramedianus (*ii*) Nucleus intercalatus Staderini (*iii*) Nucleus prepositus and (*iv*) Nucleus of Roller (Fig 1).

The Nucleus paramedianus is a plate-like nucleus of small cells lying on the medial side of the hypoglossal nucleus. It does not contribute fibres to the hypoglossal nerve. It is believed that the dorsal longitudinal fibres of Schutz terminate in this nucleus.

The nucleus of Staderini is situated between the dorsal efferent nucleus of vagus and the hypoglossal nucleus. Anterior to the cephalic end of the hypoglossal nucleus this nucleus of Staderini becomes continuous with that of a large nucleus called Nucleus Prepositus. The function of Nucleus Staderini is not well understood. It does not contribute fibres to the hypoglossal nerve. There are different cell groups in this which are supposed to represent the special functional centres for the various muscles of the tongue.

The Nucleus of Roller (Fig. 1.) is a small group of cells which is situated just ventral to the hypoglossal nucleus on either side of the middle line. The cells are small in size and very well seen about the level of the middle of the hypoglossal nucleus. Some of the cells from the hypoglossal nucleus might have migrated into this since they can be identified by their large size. The connections and functions of this nucleus of Roller are yet to be worked out. The view that this is responsible for the control of respiration is still to be proved. In peripheral hypoglossal nerve lesions, the nucleus of Roller does not degenerate. The two hypoglossal nuclei are connected by a commissure which is responsible for the co-ordinated action of the two halves of the tongue. (Kölliker).

The hypoglossal nerve emerges from its nucleus as several rootlets which are about 20 in number. They pass between the white reticular substance and the

medial lemniscus and leave the medulla between the pyramid and the olive. The rootlets run laterally behind the vertebral artery and are collected into two bundles which pierce the duramater separately and after uniting with each other enter the hypoglossal canal as the hypoglossal nerve. On emerging from this canal, it curves laterally round the nodose ganglion of the vagus and lies in the groove between the Internal Carotid artery and the Internal Jugular vein. Then the nerve crosses both the carotid arteries and hooks round the origin of the occipital artery or its sternomastoid branch and runs superficial to the hyoglossus. It lies deep to the submaxillary gland and at the anterior border of this muscle it enters the genioglossus to break up into several branches for the supply of the tongue musculature.

The nerve is morphologically and developmentally considered to be an upward continuation of the cervical plexus. Its sensory component is absent. Sometimes it is possible to recognize a small ganglion (Froriep's ganglion) upon the nerve. It is highly probable although sufficient evidence is lacking that the nerve contains a proportion of somatic afferent proprioceptive fibres from the tongue musculature; but these have not been demonstrated.

Connections of the Hypoglossal nerve:

(a) *With the Cervical Plexus*:

In the neck this nerve is joined by a branch from the anterior primary ramus of the first cervical nerve (sometimes the second also). These fibres are partly sensory and partly motor.

(*i*) The sensory fibres get separated as the recurrent branch to supply the duramater of the posterior cranial fossa, diploe of the occipital bone and the walls of the occipital sinus.

(*ii*) The motor fibres proceed along the hypoglossal nerve for some distance. Part of the fibres get separated and supply the geniohyoid and thyrohyoid muscles, and others leave the hypoglossal nerve as the descendens hypoglossi which will unite with the descendens cervicalis (anterior primary rami of the second and third cervical nerves) to form a loop called the ansa hypoglossi. Branches arise from the ansa hypoglossi to supply the strap muscles or the infrahyoid muscles (omohyoid, sternohyoid and sternothyroid).

(*b*) *With the Cerebral Cortex*:

The cortical connections represent the upper motor neuron from the lower part of both motor areas of the cerebral cortex; but mainly from the opposite side. The voluntary motor impulses reach the hypoglossal nucleus from the cortex through these fibres. The corticobulbar fibres reach the medulla by way of the aberrant pyramidal fibres.

(*c*) *With the other cranial nerve nuclei*:

There are connections of the hypoglossal nucleus with the sensory nucleus of trigeminal, facial motor nucleus of the opposite side by way of the medial longitudinal fasciculus and the superior salivatory nucleus. Through this last connection the tongue can respond to the sensory stimuli from the buccal mucous membrane.

(*d*) *With the sympathetic system*:

The post ganglionic fibres from the superior cervical ganglion join the hypoglossal nerve.

Besides the somatic efferent functional component, the hypoglossal nerve has

proprioceptive endings of a special type, which enable the tongue to perform the various intricate movements during speech, swallowing, and chewing. But the course of the proprioceptive fibres have not been demonstrated. (Table I)

TABLE I

Name of the Cranial Nerve	Functional Components	Origin	Termination	Function
Hypoglossal Nerve XII Cranial	(a) (Special) somatic efferent	Motor nucleus of the XII nerve in the Medulla	Intrinsic and extrinsic muscles of the tongue	Motor in function just one neurone (Lower Motor Neurone)
	(b) General Somatic afferent Proprioceptive	?	?	Proprioceptive from tongue musculature

Discussion :

(a) The pyramidal fibres of the hypoglossal nucleus may be involved in some pathological conditions, producing a supranuclear lesion. In this condition the corticobulbar fibres are involved. This represents an upper motor neuron lesion. There will be a spastic paralysis of the muscles of the contralateral half of the tongue. There is no atrophy of the muscles and there will be no fibrillation. The tip of the tongue within the mouth will deviate to the side of the lesion, but on protrusion, the tip will deviate to the normal side. There is no reaction of degeneration on electrical stimulation. This represents the central paralysis and an upper motor neuron lesion.

(b) The hypoglossal nucleus and the fibres arising from it may be affected by various disorders involving the medulla like the chronic bulbar palsy, tumors of the choroid plexus of the IV ventricle, or tumors of the cerebellum pressing on the nucleus or vascular lesions. They come under the intramedullary or the extramedullary lesions depending on the place of the lesion. These are of the lower motor neuron type. In chronic bulbar palsy, there is a progressive degeneration of the motor nuclei of medulla and pons. The hypoglossal and the facial motor nuclei are the first to be affected leading to facial paralysis and dysarthria.

The vascular lesions like the thrombosis of the anterior spinal artery in the medulla will lead to the flaccid paralysis of the tongue musculature on the same side and spastic paralysis of the extremities on the opposite side. If the lesion involves the medial lemniscus also, we will have loss of position sense, vibratory sense, tactile discrimination and muscle sense.

The extramedullary lesions may be caused by fracture of the occipital bone, trauma or tumors. In the neck region the nerve may be involved by tumors or infection or adenopathy. Rarely the last four cranial nerves and the cervical sympathetic may be involved together.

In all these peripheral lesions, the hypoglossal nucleus or the fibres arising

from it or the nerve in its intracranial part or extracranial part may be affected giving rise to the typical lower motor neuron paralysis of the tongue. In such conditions, there will be a flaccid paralysis of the tongue musculature on the corresponding side, atrophy, electrical reaction of degeneration and fibrillation. When the tongue lies within the mouth, the tip will be deviated to the healthy side by the pull of the normal styloglossus. The protusion of the tongue is effected mainly by the contraction of the posterior fibres of the genioglossus muscle which draw the base of the tongue forward and downward. The genioglossus acting above will protrude the tongue in such a way that the tip is directed to the opposite side. If the two genioglossi contract together, the tongue is protruded in the middle line. Consequently, in paralysis of the hypoglossal nerve, the genioglossus of the affected side cannot contract; but that of the normal side will contract so that the tip of the tongue will point towards the injured side. The dotted outline in Fig. 2. indicates the

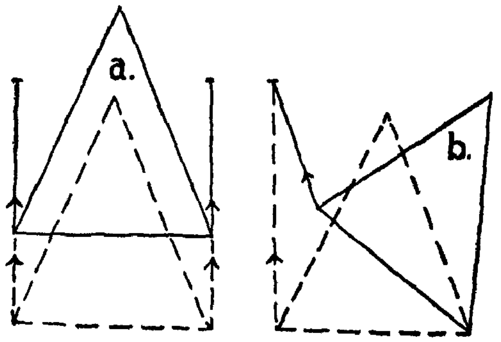


FIG. 2

original position and the solid lines indicate the muscular contraction in (a) normal and (b) hypoglossal of the right side injured.

SUMMARY :

(1) The hypoglossal nerve functionally belongs to the somatic efferent group supplying the extrinsic and intrinsic muscles of the tongue. We cannot definitely say whether it can be included under special or general somatic efferent. But there is some evidence to place it under the special somatic efferent group. It has no sensory fibres; but has few sympathetic fibres.

(2) The hypoglossal nucleus is related to four groups of nuclei mentioned above; but they do not contribute fibres to the hypoglossal nerve.

(3) All the extrinsic and intrinsic muscles of the tongue are supplied by the hypoglossal nerve except the palatoglossus.

(4) The descendens hypoglossi is derived from the cervical plexus (anterior primary ramus of the first cervical) and has no fibres arising from the hypoglossal nucleus. It supplies the geniohyoid, thyrohyoid muscles. It also unites with the descendens cervicalis (anterior primary ramus of the second and third cervical) to form the ansa hypoglossi which supplies all the strap muscles (omohyoid, sternohyoid and sternothyroid).

(5) The peripheral lesion of the hypoglossal nerve is a lower motor neuron paralysis where we have a flaccid paralysis of the muscles of the tongue on the same side, fibrillation, atrophy and electrical reaction of degeneration. When the tongue is inside the mouth, the tip of the tongue deviates to the healthy side; but *when the tongue is protruded, the tip deviates to the same side of the lesion.*

LITERATURE CITED

1. Buchanan — *Functional Neuroanatomy* — pp. 105-106.
2. Buchanan — *Manual of Anatomy* by Wood Jones. — pp. 1411-12.
3. Crosby E. C. & R. T. Woodburne — *Laboratory Manual in Neuroanatomy.* — pp. 17.
4. *Cunningham's Manual of Practical Anatomy.* — pp. 227-28.
5. *Cunningham's Text book of Anatomy* by J. C. Brash. — pp. 1006-1011.
6. Grant J. C. B. — *Method of Anatomy* — pp. 729.
7. *Gray's Anatomy* — Descriptive and Applied. by T. B. Johnstone. — pp. 1125-1129.
8. Kreig W. J. S. — *Functional Neuroanatomy.* — pp. 73-77.
9. Ludwig — *Atlas of Cross section Anatomy of the Brain.*
10. McGregor — *Synopsis of surgical Anatomy.* — pp. 139-140.
11. Morris — *Human Anatomy by Schaeffer.* — pp. 1117-18.
12. *Savill's System of Clinical Medicine* by Warner. — pp. 866.

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T. Roosevelt

* * * *

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* * * *

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* * * *

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* * * *

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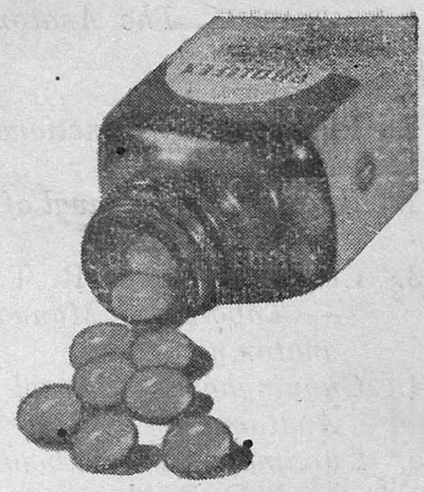

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Waxing and Waning

DR. V. C. ANGULI, B.SC., M.D.,
Lecturer in Pathology, Madurai Medical College.

IT IS more than two months since I am here in this city of fame — after my first transfer in service out of my home city. I entrained with a mood of depression — but the shimmering crescent of the new moon greeted me during the night of my journey towards this place. Ever since I arrived here, each advent of the new moon making more or less a calendar month of my stay in this ancient city of glory reminds me of my home, sweet home, with all its affections, familiarity and the memories of the past putting me to low spirits. The moon, specially the crescent new moon has grown to be a friendly acquaintance — a reminder of the usual happenings of life — of the waxing and waning of life — of periods of joy following moments of depression — of light following darkness in an everending alternation. Inspite of its everchanging phases, the moon is the same throughout the world and so is life which is nothing but a passage of days showing a variety of human struggle and yet it means the same to one and all. The real problems of life as they appear to me, consist of the problems of the individual in a social background, of harmonious living, of an adjustment to the new environment and of a continuous ambition of becoming something better and higher. There are no definite answers to these problems, for the solution to them is essentially the knowledge of one's living philosophy. And so I was in an upheavel of thought — quite amazed at the spirit of humanness, striving for an uncertain ideal of the unknown future in the midst of innumerable failings and disappointments. It appears as if that each person could faintly see the pathway to the future ideal and could tread along it with firm steps but guided by the events and experiences of the past. As a social being, each of us is so much interested in one's own life for the present with a wishful future. This is the human egoistic nature. While this complex nature dominates in the implementation of one's action towards the goal of one's aspiration, there exists an innate fear regarding certain set conclusions and traditions of our religious customs. Religion, social customs and one's personal views set up a galaxy of thoughts being unable to decide whether there is a soul or whether there is a survival of the soul after death — making up a riddle of the universe. Whilst an approach to life's problems on scientific lines with energy, a feeling of optimism and self confidence appealed to me as the practical means, a kind of vague humanism with religious beliefs and a method of approach to one's problems with an element of magic and a reliance on the supernatural overpowers me, engaging my mind in a terrible conflict of thoughts. It is human weakness not to assert one's own ideas in the midst of the differing majority. Our life composed of our actions, customs, beliefs, appear to be guided by the principles of society and to a large extent influenced by the environment. I am afraid that quite often our individual thoughts are not original. Man is a peculiar being. He wants to adapt himself to the surround-

ings in such a way that while he finds some solace to himself he wants to please others. There appears to be no freedom for action according to one's own free will even in this age of democracy for every man is moulded to suit the environment he is placed in, by the so called conventions, social laws and the opinion of others. Quite often, those who are trained in a particular groove of thought do turn out to be "chips of the good old blocks." These ideas remind me vaguely an old tale I have heard years ago :

There was a family of sea gulls on a particular sea-shore. They used to catch fish for their prey and therefore led an active harmonious life. A band of fishermen visited that spot and monopolised that area for their fishing. Their advent was a windfall to the sea gulls for they had the benefit of the unwanted unedible unpopular fishes which were thrown out on the shore by the fishermen. This environmental opportunity made the sea-gulls give up their wont habit of fishing for themselves resulting in an idling generation, of purely terrestrial habits and incapable of fishing. A time came like the waning of the moon when the band of fisherman left this part of the sea-shore and settled elsewhere. The sea gulls were helpless, being quite at a loss even to exist. The harmonious peaceful living of the family ceased, leading to their complete extinction. This is one aspect of environmental influence.

Man is also subject to such influencing factors inspite of his analytical mind which can reason out what is best for him. Quite often, good influence leaves an everlasting impression in one's mind. It is not only the mind or the action — it appears that even one's very physical personality could be moulded by environmental factors. I think it was Jules Verne quoted by a teacher of mine — who has left in me the following ideas in a story form which vaguely outlines an answer to the enigma of the universe :

There had been in the past an Artist — a painter, a lover and a philosopher. His life began as one of immense happiness with the very pleasant thoughts of getting married to the woman he loved. The waning of the moon of his life occurred all of a sudden with the tragic demise of his beloved one. His moments were all one of depression for days together. Light slowly crept into his darkened days as he commenced painting a duplicate of his beloved on the canvass. He worked to the utmost capacity with his mind filled to the brim with the subject of his beloved and on completion, it was true to life, giving him adequate consolation to his agonised heart and the comradeship he so much craved for. He was in a dreamland of his own and was looking at the unsubstantial shadow as the real person. He gave all his energy to the cause of his art, but all the time his exhausted body, mind and soul were even charged with comfort, encouragement and strength by the realistic personality of his creation. A few years rolled on and he adopted a pretty girl from an orphanage as his daughter. She grew up in the midst of art, affection, imagination and unreality. She was named after the deceased. She worshipped the canvass portrait as her own mother. She heard a great deal about her from her father. She adored her adoptive mother on the canvass and her virtues so much that she wanted to imitate her in every aspect — her mode of dress — talk — manners etc. She grew up into a beautiful maid in that environment — her entire self guided by the unrealistic personality of her mother. There came an occasion for an old intimate friend of the artist to visit

them. The artist's daughter was the hostess. The artist was thrilled when he heard his friends' remark "She is an image of her mother." The past unrolled before him with enormous pride and joy about his late beloved filling his mind. To him, in his dreamland, his daughter was the true heritage of his late beloved which was quite untrue. This theme just reveals that a very great deal appears to be determined by the past complex of events, the environmental factors and influence — all overwhelming the individual. In the face of what has been said, while it is true that a man can do what he will, the human life with all its problems — the world — nay ! the entire universe is nothing but an imagination of a great thinker.

And so I thought that "Happiness or Sorrow" is nothing but one's own thought. This is the practical philosophy of life not unravelling the mysteries of the Great Thinker. Let me do my work in the way I feel really happy and let me leave the question of God and Soul to better thinkers. To me — in a scientific career with a social and religious background, the words of Aldous Huxley appeals — "If there is a God and if there is a soul, God, save my soul". This statement is a selfish one — to be on the safe side I should not be disheartened by the waning of the moon and I am at fault, if I am depressed.

When the fox hath once got in his nose, he will soon find the means to make the body follow.

* * * *

For yesterday is but a dream,
And tomorrow is only a vision,
But today well lived makes
Every yesterday a dream of happiness
And every tomorrow a vision of hope.

— *Kalidasa*

* * * *

Errors like straws upon the surface flow,
He who would search for pearls must dive below.

* * * *

"All your strength is in your union,
All your danger is in discord."

— *Abraham Lincoln*

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Biochemistry of the Thyroid Gland

THE THYROID HORMONE

By

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THE PROMINENT position occupied by the thyroid gland in the "endocrine orchestra" has been aptly epitomised by William T. Salter (1), who stated that "if the pituitary is viewed as the leader of the 'endocrine orchestra', perhaps the thyroid may be regarded as the first violin". Its vital physiological role, along with its varied influences on the different biochemical changes in the living body and the various clinical manifestations associated with the hyper — and hypo — functions of the gland, have drawn the attention of physiologists, biochemists, cytologists and clinicians all over the world, especially during the last six decades, resulting in a considerable advance in our knowledge of thyroid function. The various lines of investigations carried out during the last hundred years in regard to the elucidation of thyroid function will be briefly reviewed here.

The Thyroid Gland

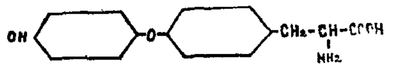
The first full description of the thyroid gland was given by Wharton (2) in 1656, who named the gland as 'thyroid' because of its resemblance to a shield (*Thyreos* =a shield). Developmentally it was considered to belong to the alimentary tract by Anton Dhorn (3, 4). Whatever alimentary function it may once have had, has disappeared through the ages and now its main function is to elaborate and control the supply of a very vital hormone. It may be mentioned that in the evolutionary scale, first evidence of an iodine fixing organ occurs in the *cyclostomes* (5) and below this evolutionary level, the 'endostyl' is generally considered as the homologue of the thyroid; but there is not enough evidence to attribute any endocrine potency for this organ (1). Four excellent reviews have recently been published on this subject of comparative physiology of the thyroid gland (6, 7, 8, 9.).

The thyroid gland has a double function in that, it not only synthesises the active principle but also stores it inside its follicles as colloid material, slowly releasing it for circulation at proper levels as occasion demands. The structure of the gland is well suited for this two-fold function as a factory and a store-house. The gland consists of an aggregation of follicles, which are closed cavities without any direct structural communication to the exterior. These follicles are lined by a single layer of epithelial cells resting on a support of fine connective tissue fibrils, but there is no true basement-membrane. The cells are normally cuboidal, but alter their shapes according to the stage of activity. Under forced activity, they become columnar, while they get flattened in resting phase, due to the distension of the follicles by the increased colloid,

which occupies the central acinar space. The typical epithelial cell has a spherical nucleus with prominent nucleoli and mitochondrial filaments arranged parallel to the long axis of the cell (10). Cowdry (11) and Maria Krogh (12) have demonstrated the presence of a prominent Golgi apparatus, which undergoes characteristic changes when the cells are stimulated, especially with the thyrotrophic hormone. After such stimulation, droplets of colloid could be seen near the Golgi apparatus (13). How the colloid reaches the follicle or the blood stream is still a controversial matter. According to Bensley (14) a reversal of 'polarity' occurs in the cell, so that at certain times the cells secrete inwards into the follicle and at other times outward into the blood stream. This postulate is based upon the assumption that the colloid is the true secretion. However, more recent cytochemical studies indicate that the colloid may be broken up into smaller molecules before it is released from the follicle. (15).

The Thyroid Hormone

In the light of the recent classical discovery of Gross and Pitt-Rivers (16, 17) that triiodo-thyronine has got 5 to 10 times the potency of thyroxine and the establishment of the presence of the triiodo derivative in the thyroid gland by various workers (18, 19), it will be necessary to use the term "Thyroid Hormone" as a generic term instead of using it with reference to a single substance, say, thyroxine or thyroglobulin. Salter (1) used the term "thyroid hormone" to indicate any substance that will relieve human myxoedema when properly administered. This definition indicates that the hormone occurs in several forms, but with a common denominator, which serves as a chemical mediator of the specific effect. Though the various agents classified by Salter under this heading "thyroid hormone" varied in the physical and chemical constitution, they all contained iodine substituted in the inner aromatic ring of a chemical grouping named *thyronine* (20)



Thyronine

Thus the term 'thyroid hormone' is a biological word "indicating a substance whose administration causes a specific sequence of biological events" (1). The following substances are now known to produce the characteristic effects :

(1) Thyroglobulin, the characteristic protein present in the colloid of the thyroid follicle.

(2) The various degradation products of thyroglobulin, sometimes referred to as albumoses, peptones and polypeptides.

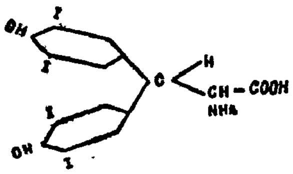
(3) Thyroxine (21) derived by the drastic hydrolysis of the foregoing or synthesised chemically (22).

(4) Other derivatives of thyronine such as diiodothyronine, which has only 4% of the activity of *l.* thyroxine and triiodo-thyronine, which is five to ten times more active than *l.* thyroxine.

(5) Unidentified derivatives resulting from iodination of proteins and subsequent hydrolysis. Salter has described some, which have been isolated in crystalline form in small amounts from the hydrolysates of iodinated proteins. These were shown to possess the biological activity of the natural thyroid hormone and were considered to be derivatives of congeners of thyroxine. In addition to these,

some workers consider that the circulating hormone is different from thyroxine and they also consider the possibility of the existence of an end-organ hormone, which ultimately penetrates within the cell and produces the characteristic effect on metabolism and metamorphosis.

As described earlier the term 'thyroid hormone' does not specifically imply the pure crystalline amino-acid named by Kendall (23) as thyroxine. As regards its chemical nature, the early work of Abderhalden and his associates (24) established that a high iodine content was essential. The various classical synthetic studies of Harington and his associates (25) showed that in addition to the iodine, thyronine configuration was also essential for the specific physiological activity. The isomer of thyroxine called "isothyroxine" [$\beta\beta$di (3,5 diiodo—4—hydroxyphenyl)—α amino propionic acid] was found to be inert.



Iso-thyroxine

Further, when the two atoms of iodine from 3′ and 5′ positions are removed from thyroxine, the activity decreased by about 90 %. However, Anderson and others (26) used it (i.e., 3,5 diiodo-thyronine) for curing myxoedema and it qualitatively produced all the features of the original thyroxine. Therefore it is considered that 3, 5 diiodothyronine is the basic hormone or "Pharmacogen". The 3′ and 5′ iodine atoms would then be considered as "auxopharmacophore" groups, that is, groups which, enhance the effect of pharmacogen. Here it may be again pointed out that 3′, 3, 5 triiodothyronine is the most potent of the iodothyronines. When all the four iodine atoms are removed, the product loses all activity. Substitution of iodine by bromine, chlorine or fluorine or various combinations thereof (27, 28) fail to give any activity to the thyronine molecule. In addition to the work of Harington and his associates (25), those of Block and Powell (29), Nieman and Mead (30), Wooley (31), Frieden and Winzler (32,33) Cortell (34) and many others on the structure and action of thyroxine, all lead to the conclusion that the diphenyl-ether linkage with iodine in 3 and 5 positions is necessary for the activity and the activity is further augmented by the presence of iodine in 3′ and 5′ positions as well.

A satisfactory answer to the question whether thyroxine is the ultimate tissue hormone or not, is yet to be found. After an intravenous administration of thyroxine, there is always a characteristic time-lag in its response in mammalian metabolism. This leads one to think that some chemical change must occur before the material is able to penetrate *in vivo* in biochemical systems (35). As a result of various iodine fractionation studies of Cohn (36), Salter and his co-workers (37, 38, 39, 40), Carter (41) and many others with plasma, tissues and lymph, the following sequence of events through which the thyroid hormone passes may be visualised. The thyroglobulin from the colloid is first acted upon by the proteolytic enzyme of the gland as shown by De Robertis (15). The polypeptide molecule containing the thyroxine moiety readily diffuses out of the follicle and migrates into the blood-stream, through the net-work of capillaries surrounding the follicles. In the blood-stream it is immediately incorporated into the circulating plasma protein and is maintained there at a characteristic level. Salter and his associates (40) have shown that from steady concentration of circulating hor-

mone, a certain amount of the albumin escapes throuph the capillary walls into the interstitial fluid carrying with it the thyroxine and it is considered to be part of the albuminous peptide chain. From this point, however, the path across the cell membrane into the cell sap is not understood. The recent work of Pitt-Rivers and her co-workers on triiodothyronine and the acetic acid analogues of thyroxine and triiodothyronine, however, appears to throw some light on the character of this final product in the cell sap. Gross and Pitt-Rivers (16) have shown that triiodothyronine is five to ten times more active than *l.* thyroxine, and could be effectively used in the treatment of myxoedema (17). The presence of triiodothyronine in the thyroid gland also has been established by them. This leads one to the question, whether a dehalogenating mechanism is present in the cells ! Albright and others (42) claimed that kidneys were able to form triiodothyronine from thyroxine a fact which Roche and others (43) were unable to confirm. More recently however, Pitt-Rivers (44) has been able to show the presence of radioactive triiodothyronine in the blood of patients treated with thyroxine labelled with radioactive iodine. The latest discovery by her (45, 46) that the acetic acid analogues of thyroxine and triiodothyronine bring about the physiological response more quickly than either thyroxine or triiodothyronine, sets a new idea into motion, namely that thyroxine, and triiodothyronine are first converted into these acetic acid analogues inside the cell as a preliminary to their physiological responses. However, more confirmatory work must be carried out before arriving at such definite conclusions.

References :-

1. Salter, W. T. (1950) : "*The Hormones*". edited by G. Pincus and K. V. Thimman, Acad. Press. Inc., N. Y. Vol. II, p. 182.
2. Wharton, T. (1656) : *Adenographia de Glandulis Thyroideis Cap.*, 12—118. (London).
3. Dohrn, A. (1875) : *Der Ursprung der chordaton, und das Princip des Funktionsweehsels* Liepzig.
4. — (1886) : *Mitt. Zool. Sta. Neapel.*, 6—49, 92.
5. Gorbmann, A., and Creaser, W. (1942) : *J. Exptl. : Zool.*, 89—391
6. Fleishmann, W. (1947) : *Quart. Rev. Biol.* 22—110.
7. Goldsmith, E. D. (1949) : *Ann. N. Y. Acad. Sci.* 50—285.
8. Lynn, W. G. and Wachowski. H. E. (1951) : *Quart. Rev. Biol.*, 26—123.
9. Gorbmann, A. (1955) : *Physiol. Rev.* 35—336.
10. Dempsey, E. W. (1949) : *Ann. N. Y. Acad. Sci.*, 50—336.
11. Cowdry, E. V. (1922) : *Amer. J. Anat.*, 30—25.
12. Krogh, M., and Onkels, H. (1935) : *Compt. rend. soc. biol.*, 116—225.
13. Ludford, R. J., and Cramer, W. (1923) : *Proc. Roy. Soc.*, London, 104—23.
14. Bensley, R. R. (1916) : *Amer. J. Anat.*, 19—37.
15. De Robertis, E., (1941) : ibid, 80—219.
16. Gross, J., and Pitt-Rivers, R. (1951) : *Lancet*, ii—766.
17. — (1953) : *Biochem. J.* 53—645.

18. GROSS, J., and LEBLOND, C. P. (1951): *Proc. Soc. Exper. Biol Med.*, 76—686, 1951.
19. GROSS, J., LEBLOND, C. P. FRANKLIN, A. F., and QUASTEL, J. H. (1950) : *Science*, III—605.
20. HARRINGTON, C. R., (1926) : *Biochem. J.*, 20— 300.
21. KENDALL, E. C., (1915) : *J. Amer. Med. Associ.*, 64— 2042.
22. HARRINGTON, C. R., and BARGIR, G., (1927) : *Biochem. J.*, 21—169.
23. KENDALL, E. C., (1915) : *J. Biol. Chem.*, 39—125.
24. ABDERHALDEN, E., and WERTHEIMER, E., (1929) : *Z. ges. exptl. Med.*, 68—563.
25. HARRINGTON C. R., and McCARTNEY, W. J., (1929) : *J. Chem. Soc.*, 892.
26. ANDERSON, A., HARINGTON C. R., and LYON. D. M., (1933) : *Lancet*, ii—1081.
27 ABDERHALDEN, E., and WERTHEIMER, E., (1929) : *Arch. Ges. Physiol. Pflüger.*221—32.
28. WIEMANN, C., BENSON, A. A., and MEAD, J. F. (1941) : *J. Amer. Chem. Soc.*, 63—2204.
29. BLOCK, P., and POWELL, G. (1942) : *J. Amer. Chem. Soc.*, 64—1070.
30. HIEMANN, C., and MEAD. J., (1941): *J. Amer. Chem. Soc.*, 63—2685.
31. WOOLLEY, D. W., (1946) : *J. Biol. Chem.*, 164—11.
32. FRIEDEN, E., and WINZLER, R. J. (1948) : *J. Biol. Chem.*, 176—155.
33. —— (1949) : *ibid* 179—423.
34. CORTELL, R. R. (1948) : *Thesis, Yale University, School of Medicine.*
35. SALTER, W. T., and JOHNSTON, MAC A. W. (1948) : *Trans. Assoc. Amer. Physicians.* 61—210.
36. COHN, E. J., STRONG, L. E., HUGHES, W. L., MIELFORD, D. J., ASHWORTH, J. N., MOLIN, M., and TAYLOR, H. L., (1946) : *J. Amer. Chem. Soc.*, 68—459.
37. BASSET, A. M., COONS, A. H., and SALTER, W. T., (1941) : *Amer. J. Med. Sci.* 202—516.
38. SALTER, W. T., and McKAY, E. A. (1950) : *Quoted from Ref. No.* 1.
39. —— (1945) : *Fed. Proc.* 4—134.
40. SALTER, W. T. (1946) : *Trans. Amer. Assoc. study Goitre*, p. 145.
41. CARTER, G. S. (1932) : *J. Exptl. Biol.*, 9—253.
42. ALBRIGHT, E. C., LARSON, F. C., and TUST, R. H. (1954) : *Proc. Soc. Expr. Biol. Med.*, 86—137.
43. ROCHE, J., MICHEL, G., MICHEL, R., and TATA, J. (1954): *Biochem. Biophys. Acta*, 13—471.
44. PITT-RIVERS, R., STANBURY, J. B., and RAPP, B., (1955) : *J. Clin. Endocrinol and Metabol.*, 15—616.
45. THIBAULT, O., and PITT-RIVERS, R., (1955) : *Lancet*, i—285.
46. LEHRMANN, J., and PITT-RIVERS., R. (1955) : *J. Clin. Endocrinol. and Metabol.* 15—653.

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KEY FOR CLINICAL QUIZ :

(1) Meningocele.
(2) Hare-lip and Cleft Palate.
(3) Fungating Carcinoma — Female breast.
(4) Mixed parotid tumour.
(5) Malignant thyroid with Secondary on the left side of mandible.
(6) Carcinoma — male breast.

Photos — Courtesy : Mr. S. Jamal

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Parasites

By

C. M. Ammani, B.A.,

III Year M. B. B. S.

THE WORD *"Parasite"* literally means one living thing living upon another living organism. Having this in mind we hate parasites. We also condemn people as " Human parasites ". But if we stop to think for a while about ourselves we will begin to love parasites, adore them and even go to the extent of saying that without parasitism there is no life at all.

Parasitism is an universal phenomenon exhibited by plants and animals. Parasitism is only an adaptation to the surroundings, a device for the weak organism to overcome the ever present struggle for existence. Nature aims at the survival of the fittest. A parasite is fit to live and so it is surviving. If that is the wish of Nature why should we people hate it ?

Our very existence starts with the phenomenon of parasitism. We live as endo-parasites in the womb of our mother. If Nature does not accept even that amount of parasitism then where are we ? I think that we human are the biggest parasites living on other humans. If that is the case with us why should we unnecessarily blame the puny creatures like amoebae and bacteria — tons of which we can destroy within the nick of a moment with our antibiotics. Worms innocent creatures with their little brains find no other way to live and so they live in our alimentary canals. We want to destroy them altogether without any consideration. In their case the eggs produced in the body of a man do not develop in the same body but come to the exterior by some route and try to invade other hosts. But we do not want them to do that even. Once we enter our host — rather hostess, we feel very comfortable in that hospitable chamber — the uterus, take as much nourishment as possible, not caring for the host — whether she lives or not — develop fully and only then come out. Thanks to the parasite, if it does this much only. Sometimes it gets out of place, goes and settles anywhere it likes in the peritoneal cavity and sucks the life of the host itself. But luckily for the host it does not happen very often. Some take another course. These parasites are not satisfied with their lonely existence. So they divide and add one more member to keep company and come out as twins. That much about our existence as endo-parasites.

Does the process end here ? No. Even after coming out it exists as an ecto-parasite. The poor host does not want to leave the parasite even now. The host feeds the parasite, takes care of it, and provides it with all the comforts of life even denying herself many necessities and also acting as a mode of transport. It is said that the present day endoparasites started some millions of years ago as ectoparasites and have gradually worked their way inside the host as their faculties atrophied one by one leaving them more and more dependent on their host. In the

course of a few million years the present ectoparasites are progressively likely to become endoparasites. In the case of the foetal parasite, however, the process is in the reverse direction, it starting as an endoparasite and ending as an ectoparasite. In the case of certain insects it is carried even farther. The mother dies at the spot where eggs are laid and the newly hatched young ones feed on her mortal remains. That is why I hope Boyd says "Parasitism is not a matter of invader and defender. It is really a biological accident if some metabolic incompatibility occurs between the host and the parasite", because endangering the life of the host by the parasite may mean suicide of the parasite itself.

Our liking for parasitism is so great that we continue this still farther in life. In our later years we exhibit the phenomenon of "Symbiosis." Symbiosis means intimate association of two different species with reciprocal advantage and we exhibit in matrimonial life.

The only phenomenon we do not and we should not follow is "Antagonism" and so let us leave it there. Now I do hope that you will join with me and pray "Blessed be the Phenomenon of Parasitism that paved the way for our very survival and existence."

By friendly deed is friendship won. If you want a friend *you* must first be one.

* * * *

We always think every other man's job is easier than our own; and the better he does it, the easier it looks.

* * * *

Hope is a good break-fast, but it is a bad supper.

Francis Bacon.

* * * *

Labour and improve the time. In youth our steps are ductile and knowledge is easily laid up. But if we neglect our spring, our summer will be useless and contemptible, our harvest will be chaff and the winter of our old age unrespected and desolate.

Sir Walter Scott.

IN MEMORIAM

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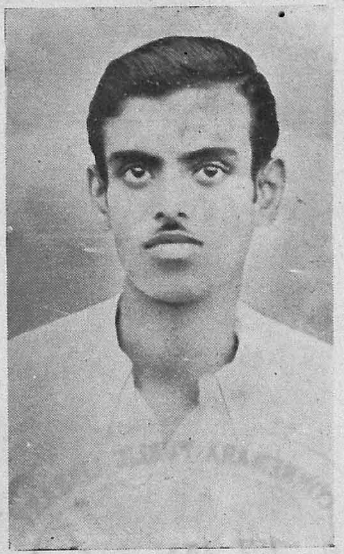


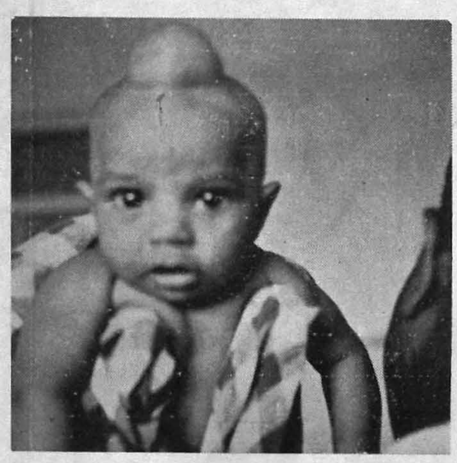
Sri S. G. PALANIAPPAN

Sri S. G. Palaniappan was born on 1-8-1935 and had his High School education in St. Michael's High School, Coimbatore from where he passed the S. S. L. C. Examination. He also passed the examination held by "Manavar Mandram" in 1951 in the First Class. As a sportsman he had obtained Certificates of Merit in Volley Ball and Basket Ball. He underwent the Intermediate Course in the Government Arts College, Coimbatore from 1951-53, and joined the Madurai Medical College in July 1954. He died on 31—8—56 at his residence, "Chitra Bhavan," Coimbatore.

With youthful indifference to ill-health and an optimistic cheerfulness, so characteristic of him, Sri. S. G. Palaniappan took keen interest in all the activities of the Madurai Medical College, including games, and was also in the Magazine Committee for 1955-56. Little did we know that the end of such a promising young friend was so near.

May his soul rest in peace.

Clinical Quiz



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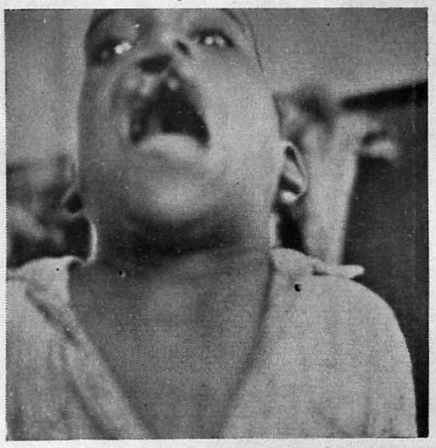

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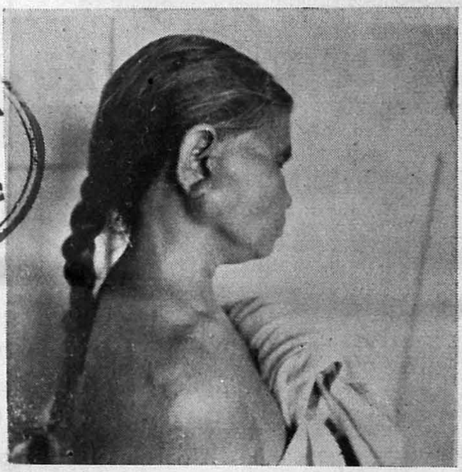

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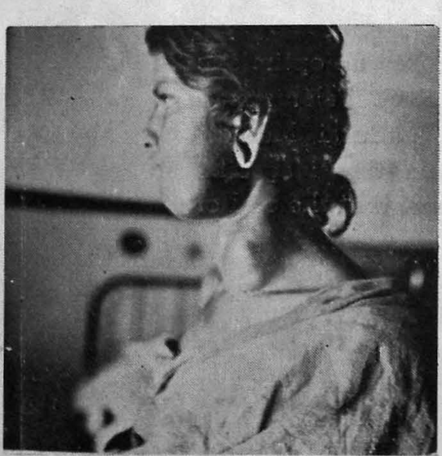

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6

My Sweet Creature

(*Short story*)

By

C. Thangaraj

III Year M. B. B. S.

IT WAS a fine lovely evening. After completing the every day circuit the sun was sinking beneath the horizon. The western sky was so magnificently bathed by the lustrous rays that rendered the world a singular look all around. The hedges along the sides, the pathway, the spreading foliages of trees, the trivial herbs along the hedges, the budding flowers on the waysides — all were wrapped with the reddish tint. The muddy ground gleamed as if it was woven with rose feathers. The gathering birds, bothering about their arrival to their nests, raised their musical notes that dissolved in the breeze and enhanced its sweetness.

Neither was I aware of my wandering nor of the threatening rain. I was simply walking, nay, my limbs were moving of their own accord. The dazzling brightness soon died off and a smooth, calm atmosphere prevailed. Quite unseemingly the atmosphere became thoroughly mistful. I was brought to me senses by the loud noise of a thunder that heralded the forthcoming rain. This change worked on me the least since my thoughts were pre-occupied by something unignorable.

Yes. It was unignorable ! was I really enjoying the mentioned prospect ? No. My eyes were fixed there but I was imaginatively enjoying that something unignorable. Yes, it was she — the sweetest of all and the dearest of mine.

The dazzling fairness of her complexion. It was not the rosy ground that glittered all along my way but her form. Her modelled figure and chiselled features — could I perceive again ? Her arched and pencilled eye-brows ; her wavy flowing hair — would these hands serve them? Her piercing long eyes that sent speechless messages — could they tell tales of untold loveliness ? Her lips with their cherry redness, her cheeks with their unique softness—could never meet mine. Many a time did I try to detect her waist in vain — so slender was it. Her tapering little fingers, her ornamental artistic tiny feet, — above all, where could I seek for that enchanting exquisite and energetic smile !

Oh ! .... was I dreaming ? I was thoroughly drenched. There was a torrential rain. I was quivering from head to feet. Water, water everywhere ! All my contemplations and meditations wore off.

What a wonder ? I was in the midst of a dense wood, of course, along the path. I could hear nothing but fearful and frightening noises. The darkness was reaching its full density. Terribly was I annoyed and confused. My mind was intensely clouded. Was I losing my consciousness ?

When my eyes were thrown open, I shrunk back in astonishment, on seeing the utterly strange situation. Vainly did I attempt to spring up. Alas ! I was in my worst physique. It was awfully distressing but I succeeded in suppressing it. My vacant eyes stared eagerly to fulfil my heart's cravings.

A window — with no curtain — was kept wide ajar. The roof was so low that it was just touching my head. No doubt it was a small hut. By this time the emerging sun's rays peeped through the window and flooded my bosom. I could not help resisting my fury. It seemed that Nature was really mocking at me. Did he not chase me the previous evening ? Was he still following me ? Were it possible, I could have smashed him off. Were these warming rays the sparklings of the laughing teeth of the sun ? Yes ! So magically did the distant prospect, with its outstanding charmness steal my attention. I enjoyed it with a mixed sense of aversion and appreciation.

Getting disgusted of the worldly occupants, I closed my eyes heavily. What was this ? I could hear somebody speaking.

"My Lord, if your honour permits, may I know the reasons for your unending hatred towards this humanity ?"

"My dear boy, humanity — Yes, this polluted condemnable humanity is worthy of being tortured with sufferings and evils. This humanity is something queer, something unique that you cannot ever dream to understand. The human race is so changeable that it can raise you up above this blue dome-sky and in the very next moment pull you down, down below the earth. The instability of this world is unfathomable. Humanity — the inhabitants of this world — is built with selfishness and deceit".

I felt as if my entire body had shrunk into a mass. My conscience tortured me. Although I was mentally distressed, my ears betrayed me not.

"My lord, begging your pardon, how wonderfully does man fight against Nature ? And one day or other he is going to win over Nature. You, a pious, God-fearing Saint, so vehemently condemn that man."

"Ye - Ye - Ye - - - my child, you are correct. Let him fight against Nature. That is different but our point of discussion is focussed on some other aspect of his. Is it not ? Can you imagine of a single man who is very straight forward and unselfish ? You might not have been aware of my story which I purposely withheld from your knowledge. Listen to me, you may wonder as to the reasons for my secluded, and Saint-like life. It does bear reasons.

It was my youthful, energetic age. I was care-free. Did I meet poverty or other catastrophies ? No. Not at all. I was healthy and wealthy. Never have

I had the least measure of worry or calamity. There came the turning point in my peaceful life. I was brought up in the company of few friends. So intimately and closely we lived that there existed no difference among us. I was so much applauded, praised and acclaimed so long as I was wealthy. Then, all of a sudden I was in need of both money and friends. Bitterly, did I regret my extravagance.

Did I not throw contemptuous look upon those ill-clad, people ? Did I not possess the pride and vanity of a prince when I was clad in gorgeous garments ? Why had I become so pessimistic and philosophic when there was no excuse to cover myself ? In my better days the neighbours were very insignificant to me. They were like the tiny passing boats near a majestic ship. When I was rich little did I know about the world but as a pauper I gathered a wealth of experience. Now, this immense experience is my wealth ".

On this occasion, my conscience was really whipped. I sighed deeply which relieved me of most of my agonising pains.

Was I not wrong in disappointing so beloved a sweet-heart ? I could flee to my beloved's chamber with open arms, if my physique allowed me, but alas !

The conversation seemed to be continued, I listened with eagerness.

" Now, I, an octogenarian, who is well-stricken in life and who is well-ripened in experience, come to understand humanity fully well. Each and everyone is unique and eccentric. Man — how selfish is he ? Every one thinks only of his own welfare, of his own importance. Every one thinks that he is greater than the rest that he is in all perfection. The petty local political leader dreams that he is solely responsible for national welfare. An insignificant composer assumes the personality of Shakespeare."

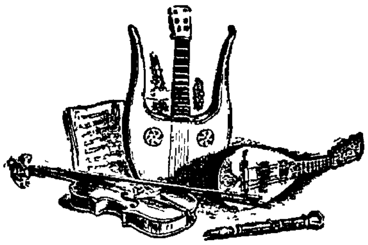
" Well, Lord, will there be an end for this " !

" There can be an end for this, if every one learns to live as a perfect man. If every one follows the foot-prints of the Buddha, the existing ups and downs of life can be got rid of."

The crowded terror and chaos in my mind soon vanished. My heart resounded " guilty, you are guilty ". I was gaining energy and I felt enthusiastic in my mind. Who was that pious gentleman scrutinising the humanity so deeply ? I was animated with a ghastly energy and I sprang from my bed and fled towards the direction of the sound. No sooner did I perceive him than I fell upon his feet. The saintly person lifted me up and made me sit up. I shouted in a fit of mirth and despair. " My saviour, you are really the saviour of my life. You saved my life not only from being drowned in the flood but also from my getting drowned in the flood of ignorance and foolishness." I persisted in my shouting " Sir, I was hearing your conversation from my bed. I was one of the types of persons of whom you were talking. I was a vain, proud and selfish creature. It was because of

my vanity and pride that I rejected my beloved. She is embodied with charmness and endowed with sweetness, but she is poor. She is of different community which stands as an unbridgable gulf in our love-path. Our social customs and religious restrictions kept us apart. Your counsel worked up in my mind. My vanity is shattered to pieces. I care not for this vain, selfish society. I am no longer a slave to my ego. My super ego has won me. Henceforth I am a 'MAN'. Where is my sweet creature ? She is my life. Without her there is no life for me. I will save you my beloved." With these words I madly ran away from the spot.

What a lovely evening ! Similar evening–the same setting sun, the same path, but the heaviness in my mind was not the same as it was the previous day. My cheeks blushed with a peaceful smile ; the rosiness was still more accentuated by the spreading reddish tinge of the setting sun. A picture of untold charm stood before my eyes. Wonderful man ! Is it not ?



God gives every bird its food but does not throw it in its nest.

* * * *

The way to have a happy life is to be busy doing what you like, all the time, having no time left to consider whether you are happy or not.

— *G. B. Shaw*

* * * *

The sparrow is sorry for the peacock at the burden of its tail.

* * * *

Danger seems terrible from a distance ; it is not so bad if you have a close look at it. And often it is a pleasant companion adding to the zest and delight of life.

— *Nehru*

* * * *

Rumour, that ill thing than which none else is speedier, flits quickening where it lists and gathers strength as it goes.

— *Virgil*

* * * *

When the fox preaches, beware your geese.

* * * *

Marriage halves our grief, doubles our joys and quadruples our expenses.

* * * *

Marry your son when you will. your daughter when you can.

* * * *

A woman that loves to be at the window is like a bunch of grapes on the highways.

A Case of Left Common Carotid Aneurysm

By

A. DEVADOSS,
III Year M. B. B. S.

INTRODUCTION :

An aneurysm is a sac which is in connection with the lumen of an artery in which the blood circulates. They are called "true" aneurysms if the wall is composed of one or more of the layers of the artery and "false" if they are formed by condensation and fibrosis of the surrounding structures.

The case presented here has got many interesting features. The incidence of aneurysm of peripheral vessels is rare. Rarer still is that of common carotid artery. This is of syphilitic origin. Surgical treatment of this case compared to the cases reported inliterature, has given very good results.

CASE :

Sri. Sankaran, age 22 years, was admitted on 28th May 1956, in Ward No. 3 under Dr. K. Ramachandran, M.S., for a painful swelling over the left side of the neck, of 4 months duration.

He is an agriculturist, not married. Family history nil particular.

He gave a definite history of having had a sore on his penis 4 years back for which he did not have any regular treatment. No history of trauma or fever.

Patient said that the swelling started insidiously and grew to this size and that he had pain from the beginning. Few days before the admission in our institution, his brother wanted him to have the operation (incision) for the "katti" by the Ayurvedic practitioner. But the patient refused to have it done by him. As the pain and swelling were increasing, he came here for treatment.

His general condition was good and he was a young active adult.

On inspection of the swelling, it was found to be conical in shape, occupying the anterolateral aspect of the middle third of the left side of the neck coming from underneath the Sternomastoid muscle and stretching it. It was about 2″ × 3″ × 3″ in size. Skin over the swelling was healthy but it was shiny due to stretching. No distended veins seen. There was visible expansile pulsation. Swelling was not moving with deglutition.

Palpation confirmed the inspection findings. The swelling was firm, not moveable, attached to the deeper structures. The skin over it could not be pinched up. It was tender, and it exhibited expansile pulsation. A thrill was felt over the swelling. No cervical group of lymph glands were palpable.

On auscultation a systolic bruit was heard over the swelling.

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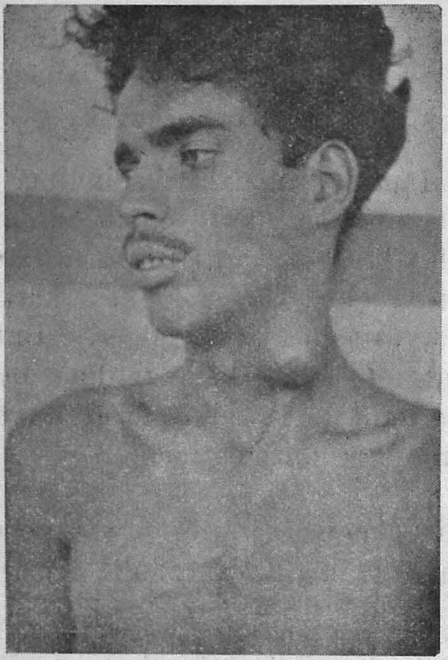
No other swelling in the body.



On the day of admission
Fig 1.

His other systems were found to be normal.

Laboratory Investigations :

Urine : Albumin — Sugar — Nil

Blood : Hb. — 80%

R. B. C. : 4.5 million.

Blood pressure : 124/90

Blood for Kahn : Positive.

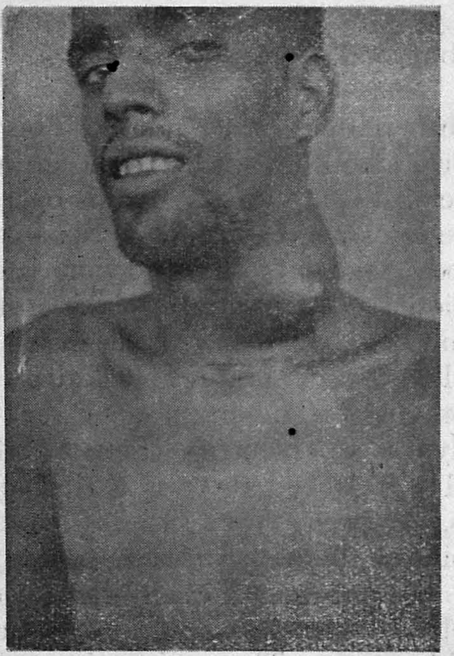
During this time, the swelling gradually increased in size and occupied the whole left side of the neck. It was very painful and he was in agony for which he had to be given sedatives liberally to relieve his pain. He had antisyphilitic treatment with Penicillin in the meantime.

Surgical treatment was planned in two stages. It was decided to ligate the left Common Carotid artery proximal to the aneurysm as the first stage of the operation.

On 3—7—1956, under endotracheal anaesthesia, operation was done by Dr. C. K. Padmanabha Menon, M.S., F.R.C.S., (ENG.), in the absence of Dr. K. Ramachandran, M.S. A collar incision was put over the root of the anterior aspect of the left side of the neck 1″ above the clavicle. The left Sternomastoid and *ribbon* muscles were divided, Carotid sheath slit open and the left Common Carotid artery was ligated by thick silk at two places $1/2''$ apart proximal to the aneurysm. The wound was sutured with a drainage tube.

A short time after the patient was returned to the ward after the operation, it was noticed that surgical emphysema was developing over the neck, head and trunk. He had difficulty in breathing. Two sutures were immediately removed from the medial side of the operation wound. Air was seen and heard bubbling through the wound. The wound was loosely dressed. After this the patient felt better. The emphysema was going down in size and it took 4 days for the complete disappearance of air from the tissues. He did not have any cerebral symptoms. After this first stage of the operation, the swelling subsided a little but not so much as was expected and there was no thrill or bruit over the swelling ; the pain completely disappeared.

After some days, skin over the swelling at one point started showing discolouration and after sometime ulcerated discharging blood. Rupture of the aneurysm through the skin is called "Aneurysm Necessitans" (Compared with Empyema Necessitans) (Ref : Fig. 2.)



After the 1st stage showing the "Aneurysm Necessitans".

Fig. 2.

As it was feared that it might bleed very severely and fatally through the ulcer, the second stage of the operation was done as an emergency.

On 19—7—'56 under endotracheal anaesthesia, operation was done by Dr. C. K. P. Menon. A collar incision was put above the swelling first below the left side of the mandible and the distal portion of the common carotid was searched and could not be found out. Even the external and internal carotid arteries could not be made out, because the anatomy was altered at that site by the size of the aneurysm. So, another vertical incision was put from the centre of the collar incision down to the clavicle. The aneurysmal sac was very carefully approached and opened. There was no free bleeding but thick layers of blood clots were present. The clots were removed carefully. After cleaning up the wound, a small defect was seen in the wall of the common carotid artery at its distal third and it was blocked by a blood clot. The blood clot was removed and on further exploration, this opening led us to a small fusiform dilatation of the common carotid artery. The carotid artery proximal to the (true) fusiform aneurysm was isolated and cut between ligatures. The aneurysm was mobilised easily. After cutting the distal main branches between ligatures, the aneurysm was removed.

After the second stage, convalescence was smooth. Operation wound healed by primary intention. (Fig. 3)

After the Second stage

(Fig. 3.)

He showed a slight deviation in the left angle of the mouth due to injury to

the cervical branch of the facial nerve during the operation.

The patient was discharged on 1-8-'56 with advice to report periodically for follow up.

DISCUSSION :

The interest in this case is as follows :

He escaped near death in not submitting himself for the incision by the Ayurvedic practitioner.

The diagnosis was obvious as the swelling was in line with the main vessel and it exhibited expansile pulsation and bruit. The differential diagnosis in this case is pulsating tumours or growths from thyroid which will move up and down on deglutition while an aneurysm remains fixed. It should also be distinguished from enlarged lymph glands, cysts, abscesses and other tumours which are receiving a transmitted pulsation from a vessel close by.

In this case, the true aneurysm of the carotid artery in the distal portion was small when compared with the size of the tumour. The wall of this true fusiform aneurysm would have weakened and necrosed, giving a defect. Through this defect a large quantity of blood would have oozed out in the surrounding tissues and this blood would have clotted and organised and this was the cause why the swelling did not reduce in size after the proximal ligature. The skin at one place was adherent and ulcerated giving a very rare clinical picture of "Aneurysm Necessitans" (Refer Fig. 2). If it had been only the true aneurysm that had ulcerated through the skin, the bleeding would have been severe and fatal.

The surgical emphysema which he had developed after the first stage of the Madurai, for his kind help and permission operation was tackled early and effectively by removing few sutures of the operation wound and letting out the air. The probable cause of emphysema may be that the apex of the left lung was injured during the dissection of the common carotid artery. X-ray of the chest taken 10 days after the first operation showed nil abnormal.

The patient did not exhibit any cerebral symptom which is the anticipated dreaded complication in this operation. If one loses nerve, muscle or bone control of body segments that portion becomes functionless. If blood supply is lost that region dies. If that part is essential to life like heart, brain and kidney that person dies. The brain gets the blood supply by two sources, carotid and vertebral vessels and there is a rich anastomosis, between these two intracranially. In spite of this rich vascular supply, very large percentage of cases show cerebral symptoms after ligature of the common carotid artery. The patient is an young healthy adult and the pathology was gradual in onset and this would have given time for the collateral circulation within the cranium to develop sufficiently.

The modern surgical treatment and the treatment of choice is excision and end to end anastomosis or excision and bridging the gap with arterial graft or plastic material. Here in our institution we do not have facilities for arterial grafting and plastic operations. Next alternative here was excision of the aneurysm and it was done in two stages. It has given very good result. We have removed the swelling which was deforming his appearance, and the patient is painless and comfortable with very good cerebral functions.

ACKNOWLEDGMENT :

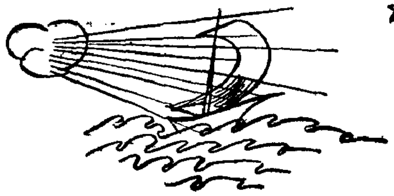
My thanks are due to Dr. C. K. Padmanabha Menon, M.S., F.R.C.S. (ENG.), Superintendent, Erskine Hospital, to publish this case. I also thank Dr. K. Ramachandran, M.S., for having allowed me to publish this case from his ward. I wish to offer my thanks to Dr. R. Venkataswamy, M.B.B.S., for his clinical photographs and other help.

BIBLIOGRAPHY :

1 W. H. C. ROMANIS, AND PHILIP. H. MITCHINER :- *The Science and Practice of Surgery.*

2 GREY TURNER :- *Modern Operative Surgery.*

3 HANDFIELD-JONES & PORRITT :- *The Essentials of Modern Surgery.*



The first requisite of a good citizen is that he shall be able and willing to pull his own weight; that he shall not be a mere passenger, but shall do his share in the work that each generation of us finds ready to hand, and further more that in doing his work, he shall not only show the capacity for sturdy self help, but also self respecting regard for the rights of others.

Theodore Roosevelt.

* * * *

Freedom is not the right to do as you please, but the liberty to do as you ought.

* * * *

Charm strikes the sight
Merit wins the soul.

* * * *

Great works are performed not by strength but by perseverence.

* * * *

Take time for work —
It is the price of success.
Take time to think —
It is the source of power.
Take time to play —
It is the secret of youth.
Take time to be friendly —
It is the road to happiness.
Take time to dream —
It is hitching your wagon to a star.
Take time to look around —
It is too short a day to be selfish.
Take time to laugh —
It is the music of the soul.

Irish Prayer

* * * *

Women laugh when they can, and weep when they will.

* * * *

Our worst misfortunes are those which never befall us.

* * * *

The father buys, the son builds, the grand child sells and his son begs.

* * * *

The dog that is idle barks at his fleas, but he that is hunting, feels them not.

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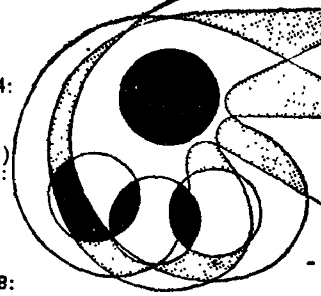

REFERENCES:

Jussawalla, D. J., M. S., F.R.C.S. (E), F.I.C.S., '*The Journal of the Indian Medical Profession*', 1955, 10, 964:

Sahu, K. C., M.B.B.S., D.P.H., (Eng.) D.C.H. (Lond.) D.T.M. & H. (Liverpool), F D.S. (Lond.) *The Medical Digest*', 1954, 9, 485:

Gaikwad A.N., '*The Indian Practitioner*', 1956, 8, 722.

Lad, R. M. '*The Medical Digest*', 1955, 6, 408:

Gandhi, A., '*The Indian Practitioner*', 1956, 5, 432:

Patel P. K., *The Indinn Medical Times*', 1956, 1, 59.

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Life in Mars

By

F. J. Rayen,

III Year M. B. B. S.

A man from Mars holds conversation with a Homo Sapien.

Martian : Say my good friend, could you tell me the way to Venus ?

Homo Sapien : Alas ! I too have last my heart and no Venus can help me. But, if you are trekking to Venus I will also venture to keep your company on that arduous trail.

Martian : My dear man, what are you talking about ? The UFSA informed me that the Earth is on the way to Venus, so I stopped here.

Homo Sapien (confused) : UFSA ? Earth on the way to Venus ? By Zeus, am I seeing stars ?

Martian : No, you are not seeing stars but at this moment you are looking into the eyes of a Martian. The UFSA stands for the Universal Flying Saucer's Association and as a man from Mars en-route to sister planet Venus it is said that I have to cross the earth.

Homo Sapien : Man from Mars ? Oh my God ! Are you from Mars ? Hearing you speak of Venus I thought you suffered the same plight as me for, my dream-girl has just jilted me and that too after three long years of courtship.

Martian : No. No. It is just that Earth is said to be the junction and I do not know which way leads to Venus; for this is the junction for three other planets — Jupiter, Saturn and Pluto.

Homo Sapien : The right path will take you.

Martian : The right ? Sure ?

Homo Sapien : Yes. The right path will lead to the right destination.

Martian : By the way my Saucer is dry and I need fuel.

Homo Sapien : Will a cup of the best Brooke Bond Tea suffice ?

Martian : I mean flying saucer.

Homo Sapien : I am sorry I don't quite understand.

Martian : Fuel for my flying saucer. We use galactrol, a phenol derivative containing galactrose with a patent Z. 66.

Homo Sapien : You baffle me. Galactrose will char your engine.

Martian : The Carbon thus formed is compressed to a diamond under heavy pressure. This diamond exerts frictional force against another diamond and the electrical potential thus developed changes three molecules of Oxygen to two molecules of Ozone. This gas gives the energy to keep my saucer aloft.

Homo Sapien: Really wonderful. There will be no patent Z. 66 "Galactrol" but I'll get you the individual requisites. First let me hear about your world of things. Have you seen splitting of atoms ?

Martian: Atoms ? (Laughs) Atomic era has passed. Atom and hydrogen bombs are but museum pieces. We now use miniatoms and from this sufficient energy is harnessed to project our rockets out of space.

Homo Sapien: (Astonished) Are there any other peaceful uses ?

Martian: O ! Yes ! Everything is so easily done. From sweeping a room to travelling through space every machine runs on miniatomic energy.

Homo Sapien: Has it proved useful in Medicine and Surgery ?

Martian: Surgery and Medicine have both been profited by this new discovery. For inflammatory conditions, rays from the spectrum of the miniatomic energy have proved successful. Whilst in surgery the assistance that a Surgeon needs is provided by a "ROBOT".

Homo Sapien: Doctors must be having time hanging on their hands ?

Martian: On the contrary, the all proof watches are grafted at wrist, so that no time is lost putting them on and removing them.

Homo Sapien: What recreations do you have ?

Martian: Every sport is played indoors — from rugby to cricket. But many do not find time for our world's too industrious.

Homo Sapien: Life must be wonderful out there.

Martian: Too industrious. There is never a lull in our planet. Always on the move. No time even for a Beedi.

Homo Sapien: Beedi ?

Martian: That's the only vice. It is a sort of Khaki coloured leaf wrapped around some special ingredients. This is a queer thing which when lit and the smoke inhaled, it gives one the feeling of celestial bliss.

Homo Sapien: Just a minute. (Buys a packet of beedi and offers his strange acquaintance).

Martian: (Surprised) : O good gracious, do you have it here ? I thought you were behind time.

Homo Sapien: So are you ?

There are two kinds of people who never change their opinion, and those are the foolish and the dead. — *J. Russel Lowell*

* * * *

Manners are like ciphers in arithmetic ; they may not be much by themselves but they add a good deal of value to everything else.

* * * *

A dog will not howl if you beat him with a bone.

* * * *

By doing nothing we learn to do ill.

Report of the Students' Association

THE ELECTIONS of the Office Bearers of the various Associations for the year 1956-1957 were held at the end of September, '56. According to the amendment of the constitution that was brought forth during the end of the tenure of the previous Committee, the new office of "Student-President" was created and nominations for this office were called for along with the nominations for the other offices.

The following are the office bearers elected for the various associations :

MADURAI MEDICAL COLLEGE STUDENTS' ASSOCIATION

Student President :
Mr. F. J. Rayen.

General Secretary :
Mr. Samuel V. Srinivasan.

Asst. Secretary :
Mr. G. Raman.

Lady Representative :
Miss C. M. Ammani B.A.

Class Representatives :
Mr. MR. Muthiah.
Mr. O. M. Ibrahim.
Mr. C. Chellamuthiah.

MAGAZINE COMMITTEE

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Miss B. Kamala.

Class Representatives :
Mr. Sam E. Rajiah.
Mr. T. Rajagopalan.

ATHLETIC ASSOCIATION

Secretary :
Mr. K. P. Mathew.

Lady Representative :
Miss Charlotte Indrabai.

Dr. V. S. Ramaswami, our Professor of Social and Preventive Medicine kindly accepted the office of Vice-President of the Students' Association in spite of his being also the Vice-President of the Magazine Committee. We are very grateful to him for his valuable guidance and immense help he is giving for the efficient working of both the associations. We know that it is no easy task for a single person to carry on as Vice-President for two committees and attend to their functioning concurrently. Mr. F. J. Rayen was unanimously elected as the first Student President for the new office created this year.

The third year of activity of the Madurai Medical College Students' Association was inaugurated on 26-10-'56 by Lt. Col. Sangham Lal, Director of Medical Services, Madras. Mr. F. J. Rayen Student President presided over the function, which was preceded by a Tea Party given in honour of Lt. Col. Sangham Lal. After a welcome speech by Mr. Samuel V. Srinivasan, General Secretary, Lt. Col. Sangham Lal delivered the inaugural address.

Col. Sangham Lal, in the course of his address congratulated the students on the excellent results produced in the I M.B.B.S. Examination held in December 1955 which was the first batch of students to appear from this College. Col. Lal also stressed on the opportunities, duties and responsibilities of a new institution of this kind which has to establish new standards as well as traditions, which in old established institutions it is often difficult to alter. He also emphasised the need for medical and public health relief in rural areas where the vast majority of our population are living and the excellent opportunities awaiting the graduates from this Medical College.

Mr. G. Raman, the Asst. Secretary proposed a vote of thanks for the chief guest as well as for all those who kindly responded to the invitation.

Samuel V. Srinivasan,
Secretary.

Better to do a kindness nearer home than go far to burn incense.

— *Chinese Proverb*

* * * *

Great reforms never start with nations but with individuals.

* * * *

It is better to fight for the good than grumble at the bad.

* * * *

The best mirror is an old friend.

* * * *

Wisdom has one foot on land and another on sea.

* * * *

Hasty climbers have sudden falls.

* * * *

Hasty love is soon hot and soon cold.

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